CHALMERS

Wallenstam **DRIVE**

Remodeling Business Models for Mobility Services
The case of Wallenstam Drive
Master's thesis in Supply Chain Management

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Cover:

The front page of the thesis is gathered from the start page of the web portal of Wallenstam Drive, about which more information can be found on page 2.

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ABSTRACT

Transporting people is a matter that concerns everyone at some level and the car has since long been a symbol for flexible mobility. This flexibility does however come at a cost and congestions, emissions as well as increased taxes and gas prices have meant that individuals and companies are reevaluating the way they relate to car ownership. As a response to this, carsharing and later on more comprehensive mobility services have emerged offering flexible mobility without the hassle of owning a car. Wallenstam Drive is a mobility service currently in its pilot stage created by Wallenstam, Hertz and Sunfleet offered to residents and corporate tenants of Wallenstam properties. The purpose of this study is to investigate how innovating its business model can increase the usage of this service. This study was performed as a case study. In the quest of fulfilling this purpose information about pioneering examples of mobility services was collected. Through a questionnaire, information regarding the users of Wallenstam Drive was obtained. A theoretical framework consisting of business model literature was also created and concluded with a conceptual model capturing the important theoretical and empirical factors to consider. In the analysis the conceptual model was to generate a remodeled business model which could be used to map the current state of Wallenstam Drive's business model based on collected empirical data. Analyzing the questionnaire provided insight into which modifications to the service that would increase the usage of the service. The main modifications concerned a widened diversified offering, increased efforts on marketing and information towards customers and the development of a smartphone application. These modifications were applied in the remodeled business model which provides a useful tool in the process of innovating the business model of Wallenstam Drive.

Keywords: *business model, mobility service, carsharing, business model framework*

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1. INTRODUCTION

Transporting people is a matter that concerns everyone at some level. People need to get from one point to another and the car has since long been a symbol for the flexible mobility (Kent & Dowling, 2013). This flexibility does however come at a cost as there seems to be a general consensus within academia that the car represents a major source of problem from an environmental perspective (Dennis & Urry, 2009). Congestion, emissions and inefficient land use are some of the consequences that become extra apparent within the cities and these problems only seem to be increasing globally due to megatrends such as urbanization (Cohen & Shaheen, 2013). Hence, car ownership for individuals or companies operating within city centers is becoming more troublesome than ever. As Frost & Sullivan industry analyst Vishwas Shankar puts it "As the place of business becomes concentrated around inner city centers, private car owners feel the pinch of escalating fuel prices, rising parking charges and negative subsidies in form of tolls and congestion charges. And even if they are ready to pay this all, they will still face the challenge of finding a parking space at all" (PR Newswire Europe, 2012).

Experiencing the problems of car ownership, as well as becoming increasingly environmentally conscious, individuals and companies are reevaluating the way they relate to cars (Cohen & Shaheen, 2013). The flexibility of the car is still desirable, but the costs and increasing inconvenience raises the question whether it is worth the price (Momo, 2010). This provides an arena for new solutions for transportation of people in a flexible manner, carsharing being one. Carsharing appeals to many private and business customers in the way that it is offering the flexibility of the car without the hassle of owning it. Other than the obvious financial benefits of not needing to worry about parking costs, cost of purchase, service and value deterioration many customers appreciate the possibility to reduce their own environmental impact (Trafikverket, 2012). In addition to the advantages for the customers, carsharing brings a lot of benefits from a societal perspective as well such as environmental effects, land use, social effects and transportation (Cohen & Shaheen, 2013). Carsharing also offers the possibility to reduce city congestion. Several studies claim that one carsharing vehicle can replace 4-15 privately owned vehicles depending on study (Trafikverket, 2012), making the effect on congestion quite evident.

While the notion of carsharing provides a great support for the flexible mobility of its users, the solution it offers is one-dimensional. Carsharing is only the smart alternative for specific travel needs that concern a certain distance or a certain time. Distances below a certain point are more suitable for public transit alternatives, taxi or even bicycle or walking. Similarly, distances above a certain point are opting for owned or rented car, and as distances increase, rail or even airplane (Trafikverket, 2012). Hence, solely carsharing as a service is not sufficient to cover all transportation needs for individuals or companies. As an answer to these needs, novel types of integrated services have emerged combining different transportation methods into one service. There are different constellations that offer these new services, both single companies and networks of companies. Their aim is to provide the customers with an integrated mobility solution. An example of this was UbiGo which was a mobility service incorporating a spectra of transport services including car renting, carsharing, bikesharing, public transportation as well as a taxi service (Sochor et al., 2014). The concept of a mobility service that offers more than one transport alternative is relatively new and the studies on this area are few. Since it is such a new phenomenon, and that aforementioned benefits of carsharing applies, many stakeholders would benefit from investigating the potential of mobility services.

1.1 Background

In September 2014 Wallenstam in cooperation with Sunfleet and Hertz launched a mobility service for their tenants, called Wallenstam Drive. The service offers the members free membership for Sunfleet as well as a web portal collecting Sunfleet and Hertz services and thereby facilitating the choice of car for the specific needs of the customer. Plans for the future are to integrate possibilities such as carpooling as well as smaller carsharing groups with a limited number of members. The service is not exclusive to the private residents of Wallenstam properties but also for companies that are customers of Wallenstam. The employees may however through their company's contract use the service for private use.

Wallenstam Drive is an intriguing and innovative way of offering flexible mobility. There are few existing counterparts elsewhere, where a real estate company is involved, which makes it interesting to investigate. Furthermore, Wallenstam Drive is interesting from a Supply Chain Management perspective as it is created by a business network, and a diversified network since the parties operate in very different contexts and industries. All the parties bring their own resources and value to the service and all the parties stand to gain if the service becomes a success. Wallenstam is keen to get high utilization of this service among their tenants as they see it as a possibility to strengthen their image as a green real estate company with the added benefit of reducing the need for parking places when erecting new buildings. Hertz and Sunfleet stand to gain the opportunity of increasing the customer base and also receiving new direct channels towards these new customers through Wallenstam Drive (Hellquist, 2015). High utilization of this service also offers benefits from a societal perspective as it is an environmentally friendly alternative to transportation of individuals which also helps to reduce congestion in the city core. As mentioned earlier, the customers can be private, business or business/private which means that the demands can be hard to align as they may be quite diversified. Diversified demands can be difficult to cope with but the fact that there is an inter-industrial business network behind the service provides an opportunity to be versatile and a possibility to perform necessary adjustments. This could take its form in acquiring new resources, restructuring the activities or even incorporating new actors into the network.

Wallenstam Drive is still in its early stages and it is currently a pilot project that should run until September 2015 when it will be evaluated. As for now, participation is relatively low with only a small portion of the potential users being members. However, since it is a pilot project there is a lot of potential to increase the number of members and users by making changes and adapting the service. It would therefore be of interest to investigate how Wallenstam Drive can be improved to increase its usage. The concept of a business model is a useful tool in defining the logic of how an organization creates value for its customers and capitalizes on it. It is versatile in the sense that it often covers the value proposition and which customers it intends to target as well as the organizational architecture behind the offering and the financial dimension (Fielt, 2014). It is therefore suitable to use in this study since improving the offering is only part of the improvements needed to increase usage of the service and analyzing the business model provides a comprehensive angle.

Increased usage of this service could translate into environmental benefits for the city of Gothenburg in the form of reduced congestion and pollution. Moreover it would result in the aforementioned advantages for the network behind Wallenstam Drive. Finally, this could trickle down to the customers in the form of a modern mobility service responsive to customer needs (Wallenstam Drive, 2015).

1.2 Purpose and research questions

The purpose of this thesis is therefore: *to investigate how the usage of Wallenstam Drive can be increased by innovating the business model.*

In order to achieve this, first one must establish an understanding on what Wallenstam Drive is. That is, how the service of Wallenstam Drive presently is constructed. This means dissecting the business model and investigating what kind of value it tries to leverage to its customers and also how this is achieved by the parties involved. Apart from understanding how Wallenstam Drive is constructed it is also useful to know how it differs from other mobility services. This can provide useful information both in terms of positive factors that sets the service apart but also aspects that Wallenstam Drive seems to be lacking compared to other mobility services. Such insights could be used as inspiration for improvement of the service. Consequently, the first research question is:

RQ1: How is the business model of Wallenstam Drive currently constructed and how does the service differ from existing mobility services?

To understand to whom the network needs to adapt and who the potential users are the customer base needs to be analyzed. Hence, an understanding regarding who are using the service and who are not using the service needs to be obtained. This is necessary for creating an understanding of the needs of the customers (Osterwalder et al., 2010), which are important to grasp in order to fulfill the purpose of this thesis. It is therefore important to answer the question:

RQ2: What are the characteristics of the potential customer base of Wallenstam Drive?

Once the potential customers have been mapped the next step is to find out how the usage of the service can be increased. It is important to find out if there are specific features that could be added or changed making the service more attractive to their customers (Osterwalder et al., 2010). Hence, issues concerning why people are using the service and to what purpose but also why people are not using this service needs to be investigated. Satisfying the identified demands is likely to implicate that changes of the service needs to be performed, resulting in adjustments to Wallenstam Drive. In many cases, an innovative product/service is not enough to be successful, the design of the business model has great impact on whether a firm succeeds or not (Teece, 2010). Therefore it needs to be analyzed how the business model of Wallenstam Drive should be developed according to the identified demands as a way of increasing the usage of the service. This in turn will have consequences on the network behind Wallenstam Drive as business models and networks are interdependent and the network plays a role in the development of business models (Mason & Spring, 2011). Hence, the third and final research question, which also fulfills the purpose of this thesis, is formulated as follows:

RQ3: How does the business model of Wallenstam Drive need to be developed in order to increase the usage of the service and what does this imply for the network?

1.3 Structure of the thesis

The study is structured as follows. The first part presents a description of the concept of mobility services, followed by a presentation of variants of mobility services as well as success factors and barriers for mobility services. The information regarding these areas is based upon existing literature. The following part is based upon theory regarding definitions of business models and a presentation of selected business model frameworks and is finished with a discussion regarding renewal of business models, and it is upon this that our theoretical framework is built. Thereafter a conceptual model is presented which is based upon the

theoretical framework and the context of business models as well as the description of Wallenstam Drive. Subsequently, a collection of results from the questionnaire is presented. This questionnaire was sent to current and potential users of Wallenstam Drive and made it possible to collect demographical characteristics as well as attitudes towards transportation modes in general and Wallenstam Drive in particular. Next, the analysis performed for this thesis is described. The analysis consists of three parts, analysis of the empirical results, the remodeling of the business model for mobility services and finally the application of the remodeled business model for mobility services on Wallenstam Drive. Finally a discussion and a conclusion of the findings of the study as well as suggestions for future studies are provided. An illustration of the larger parts of the thesis and how these are connected is shown in figure 1.1
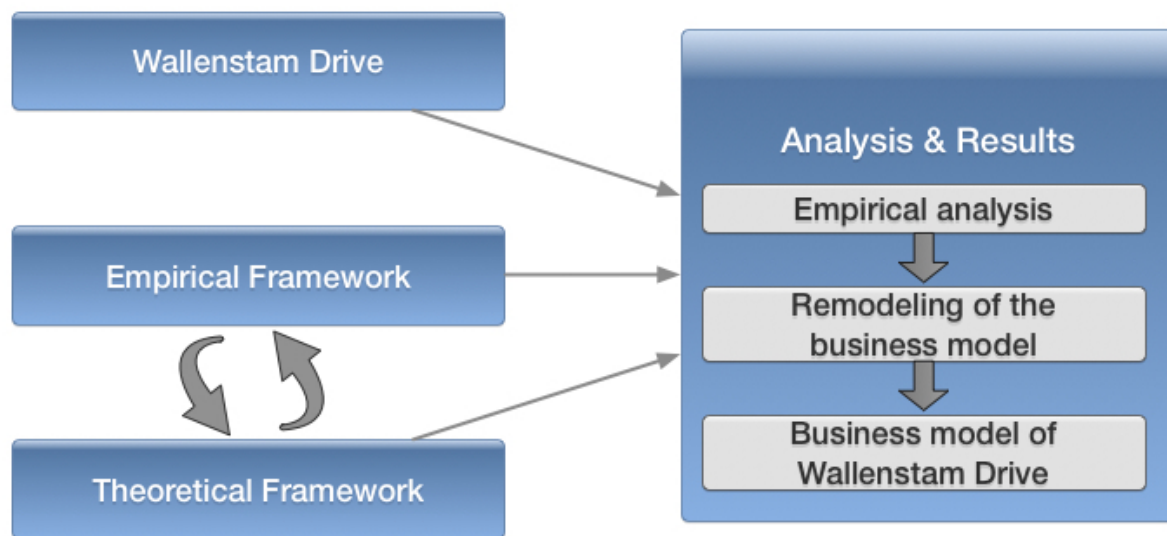

Figure 1.1 Structure of thesis.

2. EMPIRICAL FRAMEWORK

The concept of mobility services is such a new notion which means that there is no clear-cut definition used universally. The term mobility in itself can be interpreted into meaning very different things. Depending on the context, mobility can either refer to spatial mobility, social mobility or mobility in terms of getting access to certain services on mobile phones. For this thesis, the relevant definition of mobility is the spatial mobility. This means "the ability to move freely or be easily moved" (Cambridge Dictionaries, 2015). As for service, it can also contain a variety of interpretations. However in this case, the business definition is applicable and it is defined as: "a business activity that involves doing this for customers rather than producing goods, or a single act of doing something for a customer" (Cambridge Dictionaries, 2015). With this in mind, a definition of mobility service applicable for this thesis can be defined. When referring to a mobility service in this thesis it should be understood as: *the possibility for individuals to move and transport themselves provided by an entity or a network of actors in exchange for payment"*. Given this definition, it is obvious that mobility services can differ very much in a number of aspects such as, payment structure, transport modes, telematics just to name a few.

2.1 Variants

This section will cover some pioneering examples of mobility services. Information that will be presented will concern the structure of the mobility service offering and some information about the users as well as what the creators tried to achieve.

2.1.1 UbiGo

UbiGo was a field operation test that was part of a larger project called Go:Smart that aimed to create better conditions for sustainable travels (Sochor et al., 2014). It was developed in Gothenburg, Sweden and the actors behind UbiGo define their mobility service as a transport broker service. This service entailed a one-stop access to a range of travel services through a responsive web-interface and a smart card. The payment structure was based on a monthly subscription that was held by a household. Through this subscription there was a possibility to decide which type of transport services they wished to use and how many credits they wished to spend on those. The transport services included in UbiGo were according to Sochor et al. (2014):

- Public transportation - where credit took form of daily tickets for four zones in the city

- Carsharing - credit in the form of hours. For example one day costs 12 hours. Car model did not affect the price and fuel and 10 km per rental hour included.

- Car rentals - similar to carsharing the credit was in the form of hours. Prices varied depending on car model and there was a fixed fuel fee and daily insurance fee.

- Bikesharing - The subscription gave free access to the bikes, after 30 minutes there was an additional fee every 30 minutes.

- Taxi service - The subscription offered discounts for booking and invoices where transmitted at the end of the month

Furthermore there was a requirement that each household should prepay at least 1200SEK/month. The credits would never go to waste since any left over credit would roll over to next month. If the household ran out of credit for a service, one could easily add extra credits through the web-interface. (Sochor et al., 2014)

Sochor et al. (2014) continues mentioning that UbiGo provided all these different transportation alternatives through a network of transport providers which included a rental

car provider, a carsharing service provider, the public transportation provider, a bicycle rental service as well as a taxi service provider. (Sochor et al., 2014)

According to Sochor et al. (2014) incentives for usage of UbiGo was added by offering some additional benefits. One of the benefits was an improved travel guarantee which meant that if the public transport would be delayed by at least 20 minutes, the user could order a taxi through the UbiGo interface and UbiGo would pay the taxi fare. Furthermore, UbiGo users had a more generous zone system than common public transport users. Finally, UbiGo implemented a bonus system for eco-friendly travels. This meant that the user could gain points for reduced kg of CO_2 emitted compared to if the user would have made the same trip by car. Those points were thereafter transformed into gifts or services from sponsors such as tickets to museums, lunch discounts etc. (Sochor et al., 2014)

Throughout the project UbiGo had 83 subscriptions which covered 195 individuals (Sochor et al., 2014). Through questionnaires the project group was able to determine the sociodemographic data of the individuals that decided to take part in the UbiGo project but also of the individuals that were interested in taking part in the UbiGo project but decided not to. One of the most interesting findings from this data, according to themselves, were that the typical persona that was interested in that project had the characteristics of an early adopter, often with high social status and highly educated, well-informed and with an average age of 38,5 years (Sochor et al., 2014). The project group was also able to determine motivational factors for joining UbiGo through questionnaires before, during and after the project. The results can be seen in figure 2.1
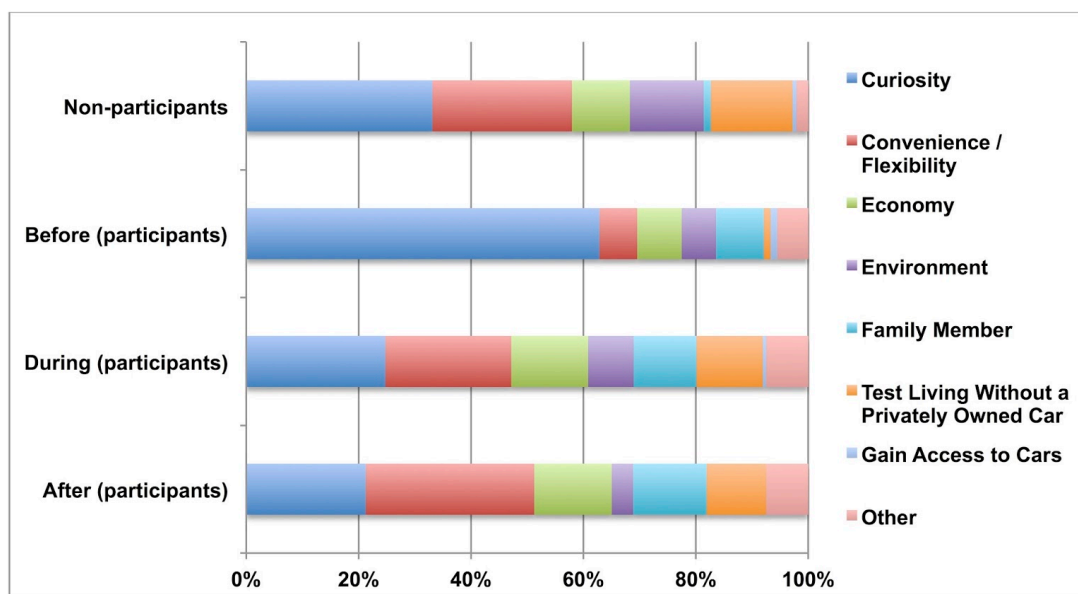
Figure 2.1 Primary motives of both participants and non-participants (Sochor et al., 2014)

What this clearly shows is that for participation in this mobility service project, curiosity was a dominant motivator. It also shows that this motivator decreased in strength as the project went along. From that one can conclude, like the project group behind UbiGo did, that curiosity is a good motivational factor for capturing new users but to maintain the users the service has to offer some values that satisfies other motivational factors (Sochor et al., 2014). As it shows, convenience and flexibility together with economical benefits became increasingly important and are the primary motivators that need to be satisfied in order to maintain high usage of the service, which the UbiGo study concluded. Finally, the study of UbiGo also provided some interesting points in barriers against joining a mobility service.

When they surveyed the people that had decided not to join UbiGo it became quite clear that the most constricting factor against joining the service was economy and a perceived mismatch between personal needs and service attributes. (Sochor et al., 2014)

2.1.2 Autolib'

Autolib' is a mobility service based on carsharing using electric cars and information regarding this service was collected from a study on sustainable mobility performed by Hildermeier and Villareal (2014). Autolib' was the result of an initiative by the Mayor of Paris Bertrand Delanoë that aimed to reduce the number of cars parked in the streets, reduce traffic jams and pollution. The city of Paris put out a request for propositions of new mobility services that were to meet the following requirements:

- The service should be electric car-based and usable for one-way trips

- It should be publicly accessible and shared

- It should be self reliant and accessible for charging of other electric cars not provided by the service

The Bolloré group, a multi-industrial group that had started to focus on the development of batteries was the provider that best met the city's demands. The solution took its form through a subsidiary called Autolib' (Hildermeier & Villareal, 2014). A 'Syndicat Mixte Autolib' was formed which consisted of a group of administrative districts that was to implement the service in their area. This service in itself revolved around a fully electric 'Blue car' from Pininfarina. Launched on the 5th of December 2011, Autolib' set out to be an integrated solution to traffic problems in Paris, and to provide the answer to the changing mobility demand. The long-term vision is that people should refrain from buying own cars and instead rely on the carsharing service provided by Autolib'. Their strategy focuses on changing the mobility behavior of younger drivers. Autolib' is a mobility service developed first and foremost for shorter occasional trips requiring a car. November 2012 the service had 47.500 users where 17.500 had a yearly subscription and the service is still operational. In the study performed by Hildermeier and Villareal (2014) there is no demographic data of the users of Autolib'. They did however perform a survey and the answers give indications to a major motivator for usage of the service. Namely that 47 % of the users used the service because they deemed it "faster and/or more comfortable than public transport" (Hildermeier & Villareal, 2014, pp. 328). As for barriers against Autolib' the study indicates that this largely revolved around political resistance. Some politicians argued that the service promoted individualized car-based transportation over public transportation and were openly opposing the initiative and refused to join the 'Syndicat Mixte Autolib'. (Hildermeier & Villareal, 2014).

2.1.3 BeMobility

BeMobility was one of many demonstration projects of electric cars funded by the German government. The project was carried out in Berlin-Brandenburg, Germany, between august 2009 and November 2011 and information regarding this could also be obtained from the study on sustainable mobility performed by Hildermeier and Villareal (2014). Standing behind this project was a consortium of actors from public transport, energy, automotive, research and telecommunication sectors. Objective with the project was to "establish new multimodal mobility concepts and to integrate electric vehicles into public transport" (Hildermeier & Villareal, 2014, pp. 330.). The core of the project was a station-based electric carsharing system but the aim was to combine the utilization of electric cars with the new trends toward shared mobility. Other than the electric carsharing system the service offered

public bike rentals as well as access to all modes of public transports in Berlin through a mobility card. The service also provided a smartphone application which could facilitate the choice of transport mode for the users.

Among some of the problems that occurred in the BeMobility project was according to Hildermeier and Villareal (2014) the price of the mobility card. Since the mobility card incorporated services from Berlin-Brandenburg's union of transport companies they had to reduce their prices since the mobility card should include the carsharing part as well. The mobility card was popular but it was mainly used for public transportation (83 % used the mobility card for carsharing and 36 % never used the mobility card for carsharing). The Berlin Senate expressed concerns that many of the mobility card users were simply just freeriding on the otherwise more expensive public transport system (Hildermeier & Villareal, 2014).

Regarding the users of BeMobility, most of the information is provided from a study performed by Ruhrort et al., (2014). Although their study focused on evaluating carsharing with electric vehicles and the needs, user characteristics and some of the motivators can be applied for this thesis as well. Regarding the users their socio-demographic background of the users was quite homogeneous. All of the participants interviewed by Ruhrort et al., (2014) were working with creative-intellectual professions or technological professions. Moreover, all of the interviewees expressed a high interest for technological innovation. The age of the interviewed participants ranged from mid-30 to late 50's. Regarding the motivators, Ruhrort et al., (2014) divided those into pragmatic motivators and emotional/symbolic motivators. The pragmatic motivators were primarily that the usage of an own private car would be impractical due to dense traffic and lack of parking spaces. Furthermore, it was considered uneconomical to own a private car if it would not be used for everyday commutes. As to the emotional/symbolic motivators, there were two dominant types. The first one was the appeal of 'smart' mobility solutions and acting modern and intelligently choosing transport mode. The second one was the 'distaste' of unnecessarily taking up large urban space with a car. Ruhrort et al., (2014) also emphasizes an interesting point, namely that even the most environmentally concerned interviewees mentioned the pragmatic motivators as their first answer.

2.1.4 Alphabet

Alphabet is a carsharing company that specializes in business mobility and fleet management. It was established 1997 in the UK as a subsidiary to BMW Group (Alphabet.com[1], 2015). Alphabet's business concept is to provide tailor made mobility solutions for each customer and they achieve this by offering what they refer to as 'advanced mobility solutions'. Among these, the ones relevant to describe are AlphaCity and AlphaElectric (Alphabet.com[2], 2015). AlphaCity is a corporate carsharing service that is tailor-made for the customer company. To ensure that the service fits exactly the needs of the customer they take a step-by-step approach. Initially, an analysis is made to evaluate the customer's mobility needs. Thereafter a concept is developed based on the analysis, including a business case since the customers are corporate. Next the mobility concept is implemented and during usage there is an ongoing optimization. AlphaCity allows for customer employees to make their reservations individually, and if they use the car for private use it can be charged to their credit card. It utilizes an online booking portal and vehicles are keyless and accessed with membership cards and started through entries of pin-code. Furthermore, AlphaCity aims to offer an environmentally friendly mobility solution that still brings driving pleasure with a car fleet featuring the latest BMW's and MINI's (AlphaCity Brochure, 2015).

AlphaElectric is as the name implies an electric vehicle based mobility service. Similar to AlphaCity, it aims to provide a tailor-made mobility solution to a customer's fleet (Alphabet.com2, 2015). It also works based on a step-by-step approach where the customer fleet is analyzed as the first step. It is investigated how the fleet can be complemented with electric vehicles and also the potential benefits it would bring based on the employees' driving profiles. Thereafter the most suitable electric vehicles are chosen based on the customer fleet analysis. Following step concerns charging solutions and AlphaElectric helps providing charging facilities for home and office. The final step concerns an ongoing support service to make sure everything is up to specifications (Alphabet.com2, 2015). Regarding users of Alphabet's advanced mobility solutions no statistics could be found, however in accordance with their business profile, all their customers are corporate (Telegraph, 2014).

2.1.5 Helsinki

The city of Helsinki, Finland, have initiated a project that aims to render the ownership of a car useless for its residents (Helsinkitimes, 2014). Adhering to a trend where the mobility needs of a generation that is constantly online and aware of the environmental effects caused by automobility seeks to provide a better alternative (Greenfield, 2014). By the year of 2025 the vision is to have transformed the existing public transport system into a point-to-point 'mobility on demand' (Greenfield, 2014). The service should involve all transportation operators and a user should be able to fulfill every travelling need through the click of a button. The service should not be contained to public transport inside the city but also cover carpool, taxi, parking fees in the city center and a train ticket to Tampere (Helsinkitimes, 2014). The service will come with an app that acts as a route planner in which the user enters origin and destination whereupon the app generates the most suitable combination of transportation modes including everything from ferries to bikes and taking details such as the weather into account. The purchase of the travel would also take place within the app (Helsinkitimes, 2014; Greenfield, 2014). It is possible that the citizens will be able to choose whether to pay by the kilometer or to buy a monthly package deal that includes a certain credit of kilometers for rental car and public transportation (Helsinkitimes, 2014).

That Helsinki is an innovative region for mobility is already evident as the public transport operator in Helsinki in 2013 launched a service called Kutsuplus which is an innovative minibus service (The Greenfield, 2014). The word Kutsuplus is Finnish for 'call plus' which indicates on the on-call nature of the service (Barry, 2013). The service is based on a system of mini-buses that riders can reserve upon demand, specifying origin and destination as well as if they wish to share the trip. The service is categorized as a demand-responsive public transit. The price of the service is between the price of a bus fare and a taxi fare and is based on a fixed fee plus a small sum per kilometer travelled. Payment is performed via a smartphone app and a computer calculating the most direct route plans the shared travel routes. According to a program director at the Helsinki Regional Transport Authority this service is intended to help motorists leave the car at home and use public transport instead (Barry, 2013). The Kutsuplus provides a convenient freedom in travelling from point A to point B and is cheaper than car ownership or even carsharing for that matter (Greenfield, 2014). The testing phase provided 10 buses and was initiated October 2012 and had recruited 4500 members by September 2013 adding buses step by step (Barry, 2013). At October 2014 the number of members had increased to 17000 and the ambition is to have 100 buses operational at the end of 2015. The user experience is perceived to be very good as it received a 4.6 on a scale to 5 in customer satisfaction in a survey performed in may 2014 (HSL, 2014).

2.1.6 Ubeeqo

Ubeqoo is a carsharing company founded in 2008 and is targeting corporate customers. Their strategy is to establish carsharing stations at the location of their customers (ESSEC Alumni, 2015). Their services are available in France, Germany, Belgium and the United Kingdom (Ubeeqo[1], 2015). They have expanded their mobility offering to incorporate two branches: BetterCar Sharing and Mobilities Benefits. BetterCar Sharing is a corporate carsharing fleet management service similar to AlphaCity in many ways. The carsharing cars can be reserved by the employees themselves and used for both business and leisure. Furthermore, the cars are accessed through the company ID-card (Ubeeqo[2], 2015). Mobilities Benefits is a mobility solution that offers a multimodal alternative to a company car (Ubeeqo[3], 2015). This service offering makes it possible for corporate employees to enter their mobility budget into an app and from this app handle all their mobility needs. That is both business and leisure trips by carsharing or rental car, taxi and train. Once a travel has been purchased, the amount is withdrawn from the mobility budget showing the user how much of the mobility budget he/she has left to spend (Ubeeqo[3], 2015).

In an interview Benoît Chatelier cofounder of Ubeeqo also expressed future plans to create a smartphone based mobility service making it possible to book and pay for any mobility solution available in a region. This would include anything from self-service carsharing cars to subway tickets or bikes and all fees would be collected to a single invoice at the end of the month. In that interview it was unclear whether this was a new service or if it would be based on Mobilities Benefits (ESSEC Alumni, 2015).

2.1.7 Moovel

Moveel is a coordinating service that collects a multitude of multimodal travel alternatives for its users. Among the alternative modes are carsharing, carpooling, taxis, bike rentals, trains limos and public transportation. The app is the first of its kind according to Moovel and acts as a route planner providing the most suitable way to get from A to B (Moovel pdf 2014). The alternatives can be sorted on price, speed or relaxed travels. The app is operational all over Germany. Moovel is currently already partnered with Car2Go, which is a very large carsharing provider, and both of these companies are subsidiaries to Daimler.

2.1.8 Move About

Move About is an electric vehicle carsharing service and was the first of its kind when it was launched in Oslo, December 2008 under the name EV Mobility on Demand (Close-up media Inc, 2012). Since then Move About have expanded into Sweden (Move About[1], 2015)

The service works in the way that user reserves a vehicle on a web page specifying when and where the vehicle will be needed. Next, when the time comes the user picks up the car at the nearest charging station unlocking the car either through a personal keycard or a pin-code received via text message to the cellphone. After the usage the car is returned to the station and the charging cable should be connected again. Move About have a pricing scheme that is based on a monthly membership fee and thereafter the user is charged upon usage. The prices differ for business and private customers and depending on the time of day (Move About[2], 2015). Move About also offer a fleet management service for business and public customers helping them satisfy their travelling needs in an environmentally friendly way (Move About[3], 2015).

2.1.9 Mobility Mixx

Mobility Mixx is a mobility service provider that caters to business customers and aims to provide them with complete mobility packages. The company is from the Netherlands and was founded in the early 2000's (Dijk et al., 2013). The service that they provide is based on the concept of flexible intermodal mobility solutions (Voyager, 2003). The service provides the customer employees travel alternatives based on combinations of rental cars, taxis, rail, and public bikes. The usage of the service increased with 33 % between 2007 and 2009. Regarding mode usage, 75 % trips had train as the main mode at that time and 25 % of the trips had pool car as the main mode (Djik et al., 2013). The service is highly customizable and the number of modes and destinations can be decided between the customer and Mobility Mixx. After that, the employees of the customer can arrange their trips based on the alternatives given through the service. All trips available are accessed through the use of one single Mobility Card. Through the mobility Mixx service, the employees can also be assigned their own mobility budget, much like the one used by Alphabet (Mobilitymixx, 2015)

2.1.10 Peugeot Mu

Peugeot has launched a vehicle rental service called Peugeot Mu (referring to 'Mobility' in Greek) that offers customers the possibility to rent a variety of vehicles. This entails a wide diversity of Peugeot cars and vans but also different types of Peugeot scooters, bicycles and electric bicycles (Brownsell, 2010). The service is based on a concept where the customer purchases prepaid mobility points that later on can be used to rent all kinds of four wheeled and two wheeled vehicles from Peugeot (Firnkorn & Müller, 2012). The service is available in Madrid, Berlin, Rome, London and Bristol (Brignall, 2010).

2.1.11 Car2Go

Car2Go is a mobility service that is centered on carsharing and was launched in April 2009. At the time of a study performed by Firnkorn and Müllers (2011) the service was available in Ulm and Hamburg. The vehicles shared are small Smart cars of the model 'Smart Fortwo' (Firnkorn & Müller, 2011). What differs Car2Go from the traditional carsharing services is that it is a free-floating carsharing service. This means that a user can pick a car at any point in the city and leave it where he/she deems fit as long as it is within the city limits. Hence Car2Go supports one-way journeys unlike traditional carsharing services (Firnkorn & Müller, 2011). The density of provided vehicles in the city of Ulm is about six vehicles per square kilometer in the service's operational area (Firnkorn & Müller, 2012). Position of available vehicles as well as other information about the status of the vehicle (fuel level etc.) is accessible through a smartphone app. An available vehicle can be used instantly though the possibility to reserve in advance exists (Firnkorn & Müller, 2011). Regarding the pricing, the pricing is completely based on time of vehicle usage and requires neither membership fees nor booking fees (Firnkorn & Müller, 2012). However since that study was performed in 2012, Car2go has now expanded and service is now available globally (Car2go, 2015)

Firnkorn & Müller (2012) analyzed the usage of Car2Go at the purpose of investigating how it affected private vehicle ownership. In that study, they provide some demographical data of the users of Car2Go. From their study it is shown that there are more men (63,6 %) than women (36,4 %) using Car2Go. Furthermore, 56 % of the users were below the age of 35 and the Car2Go users have a higher education compared to the national average. Most of the users are full-time employed (58 %) and the second largest group was student/apprentices (27,7 %). (Firnkorn & Müller, 2012).

2.1.12 Summary of Mobility services

In order to gain a better overview of the described mobility services and to be able to compare the different services, a concluding table was created (table 2.1).

Table 2.1 Summary of Mobility Services

Service	Target Customers	Services	Involved Actors	Launch	Access technology
Ubigo	Private	• Mobility broker offering public transportation, taxi service, car sharing, car rental, bike sharing	• Network of transport providers	2013	• Webinterface • Smartcard
Autolib'	• Private • Business	• Electric car based car sharing • One way car sharing	• Multi industrial network • City of Paris	2011	• Phone application • Tablet application • Smartcard
BeMobility	• Private • Business	• Station based electric car sharing • Public bike rentals • All modes of public transportation	• Consortium of actors from public transport energy automotive research and telecommunication	2009	• Phone application • Smartcard
Alphabet	• Business mobility	• Fleet management • Tailor made corporate car sharing • Electric cars	• Car manufacturer • Car sharing company	1997	• Smartcards • Online booking
Helsinki	• Private	• Public transport • Carpool • Train • Taxi • Parking fees • Route planning	• City of Helsinki • Network of transport providers	Fully integrated 2025	• Phone application
Ubeeqo	• Business	• Corporate car sharing • Fleet management for both business and leisure • Multimodal mobility service (taxi, train), • Mobility budget	• Car sharing company • Network of companies	2008	• Phone application • Company ID-card

Service	Target Customers	Services	Involved Actors	Launch	Access technology
Moovel	• Private	• Car sharing • Car pooling • Taxi • Bike rentals • Trains • Limos • Public transportation • Route planner • Parking service	• Partner with car sharing company and owned by car manufacture • Network of companies	2012	• Phone application
Move About	• Private • Business	• Electric vehicle car sharing • Fleet management	• Unknown	2008	• Web based • Smart card
Mobility Mixx	• Business customers	• Mobility budget • Complete intermodal mobility packages • Rental cars • Taxi • Bike sharing	• Unknown	Early 2000	• Smart card
Peugeot Mu	• Private	• Car rental • Scooter rental • Bike rental	• Owned by auto manufacturer	2009	• Dealer service
Car2Go	• Private • Business	• Free floating car sharing	• Owned by auto manufacturer	2009	• Phone application

2.2 Demographic characteristics of private users

These different variants of mobility services show how differently one can approach the issue of offering a mobility service. One very comprehensive study that has been made on carsharing is '*The State of European Carsharing*' performed by Momo. In this study, data from numerous other studies on carsharing from Belgium, Germany, Switzerland, Great Britain, Finland and Italy have been compiled. As a source of information for demographic characteristics and motivational factors it is perceived as holistic and reliable. Hence following information on demographic data and motivational factors was gathered from the Momo study.

In the Momo (2010) study following demographic data was presented regarding current carsharing users. Consistently throughout all the studies reviewed in Momo the share of men was in majority compared to women (ranging from 53 % to 69 %). The consistency between the studies persists when it comes to the age which ranges from 26 to 49. Furthermore the households of carsharing users are most common to be one or two person-households. The most common household size was just over two persons. In the study it is clearly pointed out that highly educated people are overrepresented among carsharing users as the typical carsharing user possess higher education than the national average. It is stated that this

characteristic is reoccurring in all known customer surveys in Europe. Moreover, carsharing users also stand out in the aspect of car ownership. Car ownership by carsharing users is below average and this is confirmed in several of the studies reviewed by Momo. In Italy for example, car-free households are relatively uncommon, still 52 % of the carsharing users surveyed in Italy do not own a car. With regards to occupation most carsharing users are employed or self-employed. Furthermore, the average carsharing user also has season tickets for public transport to a greater extent than the average citizen. (Momo, 2010)

2.3 Motivational factors

In the Momo study, answers from surveys investigating the reasons as to why people decided to join a carsharing scheme. The collected results is shown table 2.2. (Momo, 2010)

Table 2.2 Important motivations for participation in carsharing (Momo, 2010)

Car-Sharing provider or area	1st priority	2nd priority	3rd priority	Source, notes
cambio Brussels, Belgium	"Have no car but need one occasionally" 33.2%	"Contribution to environmental improvement" 18.7%	"No worries about vehicle maintenance" 16.5%	Taxistop, cambio 2009; 3 possible answers from given alternatives
various providers, Italy	Permanently or temporarily without a car 48%	Economy of the service 17%	Practicality of the service 15%	IME 2009
3 providers in London, Great Britain	"Car-Sharing is cheaper than a personal car" 52% as main reason, 28% as additional reason	"Car-Sharing is more environmentally friendly than using a personal car" 16% as main reason, 38% as additional reason	"Car-Sharing is just as convenient to use as a personal car" 12% as main reason, 31% as additional reason	Synovate 2006
Mobility, Switzerland	"Environmental reasons" 29.6%	"Mobility was a financially attractive service" 21.4%	"Increasing transport need in the household" 6.7%	BfE 2006
2 providers in Frankfurt, Germany	Infrequent need for a vehicle 1.4	Expedient complement to public transport 2.0	Environmental protection 2.3	traffiQ 2007; average value, scale from 1 = very applicable to 5 = not applicable

2.4 Business customer characteristics

In the Momo project it was concluded that there are far less studies performed on business use of carsharing (Momo, 2010). According to the survey performed 16 % of the registered carsharing users where business customers. Consequently, Momo does not provide such a comprehensive data on business users as on private users but the study does provide some information collected from studies in Switzerland, Italy and Germany. In Switzerland 2005, 144 business customers of a carsharing service answered a questionnaire. From that questionnaire it was found that those business customers where predominantly from the service industry (60 %) compared to the second largest carsharing user-industry which was Industry and Construction at 14,2 %. Another survey in Italy showed that almost all business customers of carsharing are from the private sector (92 %). Another interesting finding from that study was that the majority of the business customers were relatively small firms, 80 % had fewer than 15 employees. Similarly, a study in Germany found that 56 % of carsharing users surveyed employed up to six people and 79 % employed up to 19 people. This survey also found that the majority of the business users were from the service industry. Additionally, a study in Germany also concluded that business customers book carsharing cars more frequently and drive further distances than private customers. Moreover, business customers seem to prefer larger (mid-sized) cars to a further extent than private customers. (Momo, 2010)

2.5 Motivators for business customers

The study from Italy also presented what motivated those business customers to use carsharing. The practicality of the service was the most important motivational factor (42 %) followed by a need to replace a company vehicle. From the study performed in Germany on the other hand the business customers named cost savings as the primary motivational factor (65 %). This primarily concerned lowered capital costs and lower fixed costs for the upkeep of the fleet. Furthermore, transparency in billing was considered as a very important reason for choosing carsharing. Better car availability came second (33 %) followed by the infrequent need for a car (24 %). Many of the surveyed business customers showed great appreciation for the fact that it was possible to reserve vehicles for shorter durations. The customers in that study found environmental benefits and lowered administration costs to be of secondary importance. (Momo, 2010)

2.6 Success factors for carsharing (identified by Momo)

By consulting the Momo (2010) study success factors for successful carsharing schemes can be found. Topping this list is various forms of collaborations and the first to be mentioned is collaboration with public transport providers. Other than collaborations political engagement in the issue can be of great significance for a successful carsharing scheme. Modern technology is also raised as an important reason for success. Regarding collaborations with public transport providers the Momo study mentions some examples of how this can bring success. Firstly, collaborating with a public transport provider brings the possibility of creating package deals. This can take form through for example discount on carsharing fares for public transport customers. Secondly, collaboration with a public transport provider makes it possible to perform joint operations that can serve to increase the exposure of carsharing services. An example of this can be posters and brochures in public transport vehicles or at different bus stops or hubs. Another example can be the creation of assigned parking spots for carsharing on the property of the collaborating public transport provider. (Momo, 2010)

Extending the collaboration beyond public transport providers to other transport providers or maybe communities and regions provides the opportunity to create even better package deals.

In other words, comprehensive mobility services like some of the examples described previously.

2.7 Barriers against carsharing (identified by Momo)

In the study performed by Momo, there were also some barriers against the expansion of the carsharing industry. These barriers could broadly be categorized into political constraints, economic constraints and individual constraints. One major political constraints is a barrier that is related to the infrastructure of carsharing. Namely, that legislations in many countries does not allow public street space to be used for carsharing stations. Another political issue is that governmental fees and tax incentives often promote buying new cars both for private users and businesses which means fewer users of carsharing schemes. As for economic constraints these are fairly straightforward as the establishment of a carsharing service is very capital intense it can easily be smothered by lack of funds. Individual constraints are some of the more problematic barriers against carsharing and the biggest of them all is the lack of understanding or knowledge of carsharing. Some even mistake the name for the more informal 'lending out' of a car. Even among those who know what carsharing is about, there are a lot of presumptions as to the availability of cars and the dependability of the booking or access of cars. These presumptions are overrepresented among people who have never tried carsharing themselves. Another barrier related to individual opinions or inclinations is the emotional attachment to the car. Momo has found that even if a carsharing system would satisfy their every transport need (combined with public transport) there is still a significant resistance to the idea of abandoning car ownership. Mostly based on attitudes towards the different alternative transport modes. The car is among car owners often viewed as something more than just a means for transportation, it is associated with status. The car's value as a status symbol seems to be declining but it is still a factor that hampers carsharing expansion. Finally, another aspects that makes individuals less inclined to join a carsharing scheme is a limited understanding of the costs associated with owning one's own automobile. Consequently, car owners are discouraged by the initially high fixed costs that are associated with depending on public transportation and carsharing, even though the variable costs are much less. (Momo, 2010)

2.8 Trends

The market of mobility services is a result of the ongoing megatrend of traditional car ownership transitioning into carsharing (Leveque, 2013). The market is however subjected to a lot of modifications as it is so new and therefore has to be altered in order to meet the changing customer demands. Despite these changes there are however trends within the market. One being the will to create a service that cover as many needs as possible, such as one way and two way carsharing, integration of public transport and bikesharing services etc. By doing so the customers are supplied with a "one stop shop". Wisdom (2013) discuss the increasing trend of creating one integrated solution, similarly Leveque (2013) discuss the trend of creating integrated mobility services created by a networks and partnerships and on the same topic Saternus (2013) discuss the use of a single platform for all types of personal transport. Another trend, however also aimed at reaching a broader market, is to differentiate the business models towards different usage groups (Leveque, 2013). One example of this is that the same company markets both a one-way system and a two-way system. Furthermore, there are is a large trend of the mobility services being more technology centered and through this facilitating the user experience. For example Leveque (2013) argues that smartphones is the key integrator in mobility services.

3. WALLENSTAM DRIVE

This chapter will present the mobility service Wallenstam Drive, what it is, how it works and why it was developed. The information presented in this chapter was gathered from interviews with the Sunfleet representative of Wallenstam Drive and the representative from the communication agency of the project as well as from meetings with representatives from all parties except Hertz.

Wallenstam Drive, developed through a collaboration between Wallenstam, Hertz and Sunfleet, is a mobility service aimed at facilitating the everyday transportation needs of the residents of Wallenstam, both private and business (Herner, 2015). Wallenstam Drive aims at offering a packaged car based mobility service combining services of both Sunfleet and Hertz. The offering in Wallenstam Drive aims to take another perspective compared to other more conventional carsharing and rental car services (Hellquist, 2015). Whereas the praxis in the industry seems to be to tailor the offering around the vehicle and what kind of aspects the customer looks for in a vehicle Wallenstam Drive on the other hand have created their offering based on satisfying a need (Hellquist, 2015). By comparing how a reservation is made at Sunfleet's own web interface compared to Wallenstam Drive's service clarifies the difference. When a customer wishes to make a reservation at Sunfleet he/she immediately has to make some decisions in terms of desired specifications of the vehicle. When decided on a specific vehicle the customer has to check for the availability of that vehicle until a reservation can be made. In Wallenstam Drive on the other hand, the customer merely enters that he/she wishes to have a vehicle at a certain time. The service then on its own recommends either the one closest to the customer's location or the cheapest one available (Htzdrive, 2015). This service takes the standpoint that the common user is not that interested in the specifications of the car, instead the customer values a simple service that provides the closest or cheapest alternative (Hellquist, 2015).

Furthermore, since the offering of Wallenstam Drive incorporates the services of both Hertz and Sunfleet it means that when the service generates vehicle alternatives for the customer, these can be both Sunfleet and Hertz vehicles depending on which best fulfills the customer's need. This means that for shorter periods of use, such as hours or a day the carsharing service provided by Sunfleet is sufficient, but for longer periods such as a ski trip or similar it might be more advantageous to use the rental service from Hertz (Htzdrive, 2015). The Sunfleet cars however, has to be returned to the same station as where they were picked up, which means that the service does not provide A-B or free floating services (Hellquist, 2015). In addition the service involves Hertz Freerider, which also is a service that Hertz provides. This service offers the members to use cars that otherwise would have had to be moved by Hertz personnel since those cars are needed elsewhere. This means that if a member is going on a one-way trip and there is a Hertz Freerider car available for that destination, the member can use that car for free. There is also another standalone service called Roadmate that has been incorporated into Wallenstam Drive. This service is more of coordination service for people looking for carpooling opportunities. Either a person with seats over can put out an offer to take some extra passengers or a person in need of a transport can put out a request for a ride. When using Hertz Freerider or Roadmate, the user will be redirected to those services' own web pages where the reservation or request can be made (Hellquist, 2015). Furthermore, campaigns developed directly for the services in the network are not incorporated into Wallenstam Drive. There are however specific campaigns developed for that service only.

Regarding the pricing, this differs depending on which car the customer chooses to use. Sunfleet cars have a moving price depending on the kilometers driven and time used. The fuel is included in the price. Hertz cars on the other hand are rented for a fixed price for the vehicle but then the customer has to pay for the fuel since the car has to be returned

completely refueled (Htzdrive, 2015). As for the payment, the customer gets a monthly invoice with the charges of all rentals for the past month. This invoice for the use of Sunfleet cars contains customer number and a list of all the trips made, showing kilometers driven, time used and finally the total price for each trip and a total sum in the bottom. When making a reservation the customer needs to specify when the car should be returned (Hellquist, 2015).

In the interface (web-based portal) the user can get information about how many people that the vehicle can transport, what kind of transmission and finally whether the vehicle is classified as a green car or not. However, almost all Sunfleet cars available in Wallenstam Drive are green cars (Hellquist, 2015). In the interface users can see active reservations and all previous reservations. It is possible to make reservations up to six months in advance. Hertz is responsible for the web portal, they contracted the construction of the interface and are also responsible for the maintenance of it (Nilsson, 2015). The web portal is responsive which means that it works very well on smartphones as well as computers and all content is accessible regardless of device. Hence there are no plans for an app at this moment, the web portal's responsiveness is deemed sufficient at this stage according to Hellquist (2015).

The rationales behind the development of this service stems from several areas. One being the recognition of a change in how people view the car. This comprise factors such as that the customers nowadays has a different views on car ownership but still want to have the same mobility/flexibility (Hellquist, 2015). Moreover, people are becoming increasingly environmentally aware and the knowledge about what a car really costs is becoming better. From Wallenstam's perspective the rationale is two-folded. Herner (2015) explains that firstly, Wallenstam are keen on marketing themselves as a green real estate company. The short-term rationale for Wallenstam Drive is hence to strengthen their image as a green real estate company further. Secondly, in the longer perspective, Wallenstam hopes that this initiative can facilitate the reduction on parking place demands when building new residential houses. To be able to erect a new building one must fulfill certain standards when it comes to parking. Parking places are very expensive to build and they take very long time to pay off, if they ever do. However, if Wallenstam can say that they will offer a carsharing service they might be able to get the parking standard lowered. This may also open up possibilities for new construction projects that would be impossible otherwise (Herner, 2015). As for Sunfleet and Hertz, this service offers them new customers and new direct channels to communicate with them. The members of Wallenstam Drive also stand to gain from this service, as mentioned previously they get free membership of the service discounts on the reservations. Furthermore, reduced need for parking spaces might trickle down into lowered rent for rental apartments. On a societal level, the car ownership per capita can decrease which would reduce congestion. (Hellquist, 2015).

The cars that are available within the service Wallenstam Drive are mainly cars from Volvo and Ford. The car fleet is designed to fit all the needs that the customers might face. There are smaller cars for trips within the city or bigger cars where there are possibilities to fit baggage for the vacation. Furthermore there are bigger cars for when one might have to move (Htzdrive, 2015). As for the Sunfleet cars, the bulk of the car fleet of Sunfleet is made out of Volvo cars (Hellquist, 2015). Almost every vehicle is classified as a green car (95-97 %). It is a very modern car fleet, the vehicles are rarely older than 18 months. Sunfleet also puts high demands on the safety of the vehicles. A criteria is that the cars should have at least 5 stars in EuroNcap tests. When it comes to equipment of the vehicles all vehicles should have Bluetooth since that is aligned with the high standards of security, Bluetooth hands free speaking is safer. Furthermore, the vehicles should be rather well equipped. When a customer enters a car, it should feel like a fresh, modern car. Volvo offers different equipment packages to all their cars and all Sunfleet Volvo cars have the momentum equipment package. The cars

all have discreet and inconspicuous colors. The driver should not feel like he is driving around in some mobile billboard. The ambition is that the user should feel comfortable using a Sunfleet car when going on a business trip to meet customers or taking the family up to meet the in-laws (Hellquist, 2015). In figure 3.1, the division of reserved Sunfleet cars through Wallenstam Drive as of 31st of March 2015 can be seen.

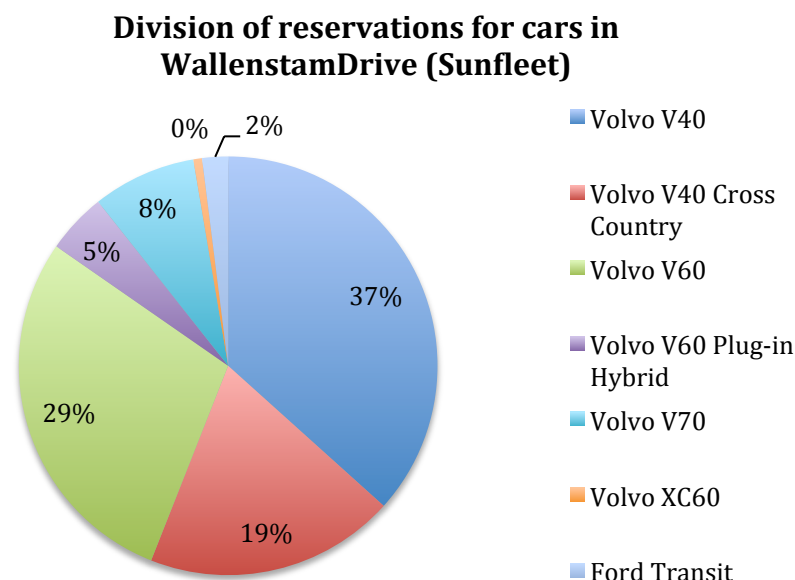**Division of reservations for cars in WallenstamDrive (Sunfleet)**

Figure 3.1 Division of reservations for cars in Wallenstam Drive (Sunfleet)

Regarding the usage of Wallenstam Drive the most common trips seem to be fairly short trips, About 67 kilometers per trip, this is however only Sunfleet vehicles. However the median value is 30, meaning that a small number of longer trips increases the average value. The same logic applies regarding the booking time and the price as well where the average time was 6 hours but the median value was 3 hours and the average cost for the bookings was 311 SEK but the median was 198 SEK. At the 31 of Mars 2015 Wallenstam Drive had 150 members, almost exclusively private, of which 96 had logged in to the service. (Hellquist, 2015).

In the interview the Sunfleet representative was asked to describe what he saw as the major barriers against the increased usage of Wallenstam Drive. According to Hellquist (2015) the major barrier towards increased usage of Wallenstam Drive is the attitude of the non-users. People are very comfortable, they think that it is nice to know that "I have my car and I can use it anytime I want". The whole mindset is set on that "this is my car, I have my car keys at home". Hellquist (2015) predicts that in ten years, when a majority of the car-owners have retired and been replaced by people born in the early 2000's there will be a large generational shift. Because when those people get their driver's license, they do not want to own their own car. In that not to far future, the attitude will not be the problem but rather the availability of cars and the keeping a sufficient convenience level of the service.

In an interview with Nilsson (2015) who is acting as a communicator in the group behind Wallenstam Drive, he expressed some further issues that may hamper the progress of Wallenstam Drive. Firstly, he expressed that there is a lack of clear leadership and distribution of responsibility. Due to this, changes and activities take a lot of time to plan and perform. The clear thing is that the parties involved should cooperate and share information but in

terms of responsibility of specific activities and division of cost structures and revenue streams it is much less clear (Nilsson, 2015). Information about the different actors' activities not directly connected to Wallenstam Drive is also rarely shared which means that the different actors rarely know what the other actors are doing. Regarding the division of activities Sunfleet should be responsible for sales. Wallenstam is responsible for distributing information to customers since they bring the customer base and possess direct channels to the customers through letters, e-mails, information in stairways and so on. Hertz has a lot of influence in the information that ought to be shared. Furthermore, as mentioned previously, Hertz has responsibility of the web portal and also the education of Wallenstam representatives as well as the customer service. The responsibility for marketing activities is not specifically assigned to one of the actors (Nilsson, 2015).

4. THEORETICAL FRAMEWORK

Following chapter covers the theoretical framework upon which this thesis' analysis will be based on, together with empirical data. The theoretical framework largely revolves around the notion of business models. To be able to fulfill the purpose of this thesis, knowledge concerning multiple aspects of business models needs to be obtained. Consequently, the first part of the theoretical framework will treat general information regarding the meaning of business models and from whence the term stems. The second part will venture deeper into the elements of business models how these are interconnected. Finally, the theoretical framework will be concluded with a section that describes the act of developing and improving business models.

4.1 The concept of business models

The concept of business models was popularized during the IT boom of the mid 90's when there were a lot of new upcoming internet-based businesses who needed a way to explain to potential investors how their ideas actually could make money (Mason & Spring, 2011; Shafer et al., 2005). The concept has since then spread and become established in the vocabulary of most executives. However, when it comes to the term business model, it is not uncommon that people throw the phrase around without actually knowing what it means (Shafer et al., 2005). Definitions of business models are numerous but even so, the different definitions seem to share many common traits. Doganova & Eyquem-Renault (2009) have collected some definitions and descriptions of business models in their study. In that study a broader description of business models can be found. It describes business models as something that answers the managerial questions of who is the customer, what does the customer value, how a company makes money in a business and how a company can deliver value to customers at a reasonable cost. Shafer et al. (2005) articulated a more detailed definition by separating the terms business and model. Their definition is built on the logic that business is largely concerned about the generation of value and how to capture returns of that value. In turn, a model is something that is supposed to be a representation of reality. Combining these two aspects together with other findings from their study they came up with the definition of a business model as "a representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network" (Shafer et al., 2005, pp. 202).

Similarly, Amit and Zott (2001) defines business model as something that describes how value is intended to be created but focuses more on transactions. Their definition reads: "a business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities" (Amit & Zott, 2001, pp. 511). Using other words, Teece (2010) argues that business models are intended to express the architecture of revenues and costs (i.e. transactions) for delivering value. Osterwalder et al. (2010), inventors of the renowned business model canvas also have their own definition stating that "a business model describes the rationale of how an organization creates, delivers, and captures value". Adding to the aforementioned descriptive interpretations on what a business model is, Mason and Spring (2011) also stresses that business models should not only be seen as descriptive tools. They argue that business models should also be seen as frames for action, that business models should possess mandate to shape actions. At the same time, business models are shaped by actions performed in a business network.

Before concluding this section and moving on to describe some of the prominent frameworks that are suitable to this study it is useful to stop around the notion of value creation. While many authors uses the phrase creating value, not all of them explicitly state that it is value for the customer that is referred to (Fielt, 2014). Osterwalder (2004) separates between outward

looking approaches that focus on customer value and inward looking approaches that focus more on activity/role structures. The customer value is however central to this study and it is therefore useful to discuss this term more directly since it is a term that easily can be thrown around but seldom properly explained. Customer value is present in many fields of science and especially in marketing literature. Customer value is according to Oxfords dictionary of Business and Management (5 ed.) defined as: 'a consumer's assessment of the overall capacity of a product to satisfy his or her needs' (Oxford university press, 2009). Customer value is however a multidimensional concept and there are many aspects of it. Holbrook (1999) author of *Consumer value: A framework for analysis and research* states that consumer value is interactive. This means that even though consumer value is dependent on characteristics of a product or a service it cannot occur without the interaction with a receiver that appreciates this characteristics. Furthermore, value is relativistic because it depends on comparisons but also differs among individuals and in different situations (Holbrook, 1999). Fielt (2014) also found that different studies distinguish use-value from exchange value. Exchange value is value embedded in the product itself whereas the user itself is part of the creation and evaluation of the use-value within consumption process. Another view on use-value is that the value is being determined by the customers based on their perception of the usefulness of the product or service. This can be translated to monetary terms as the amount that the customer is willing to pay for the product. Exchange value takes monetary form when the product is sold and it amounts to the amount actually paid by the customer (Fielt, 2014)

In conclusion, reviewing the aforementioned descriptions and definitions of what business models are there seems to be consensus around some central aspects, despite the difference in used words. These central aspects are that a business model is a way of describing, and guiding, how a firm within a network can create value for its customers and how that can be translated into profit.

4.2 Business models frameworks

In an effort to further explain the notion of business models and, more importantly, increasing the utility of business models many researchers have set out to create representations of what a business model should contain. The recurring approach is to divide the business model into its constituents. The different researchers use different terminology and refer to the constituents of business models as building blocks, elements, components etc. (Mason & Spring, 2010; Shafer et al., 2005; Teece, 2010). These constituents are largely based on the definitions that the different researchers have stipulated or chosen to use. Consequently, there is a disparity between the constituents in the different business models frameworks. In the following subsections different frameworks of what a business model should contain will be described. The aim of describing the different frameworks is to analyze the different components and by doing so finding the components that best fit the context of mobility services.

4.2.1 Business model according to Osterwalder, Pigneur and Clark

A famous illustration of business models is the business model canvas created by Osterwalder et al. (2010). The creators of this framework identified a need for a tool that helped making business models more understandable. Hence, they set out to create a business model concept that everybody would understand and that would facilitate discussion. The idea was to create something that would serve as a common starting point for discussing and creating a shared language. For this reason, Osterwalder et al (2010) sought to create a framework that was simple and understandable but at the same time the framework had to be relevant and not oversimplifying the complexities of how companies work. Osterwalder et al. (2010) created the canvas by using nine building blocks which describe the way that a company intends to

make money and the logic behind those decisions. These nine building block do in turn cover the four areas of business for a firm namely, customers, offer, infrastructure and financial viability. An illustration of the business model canvas and all the nine building blocks can be seen in figure 4.1.
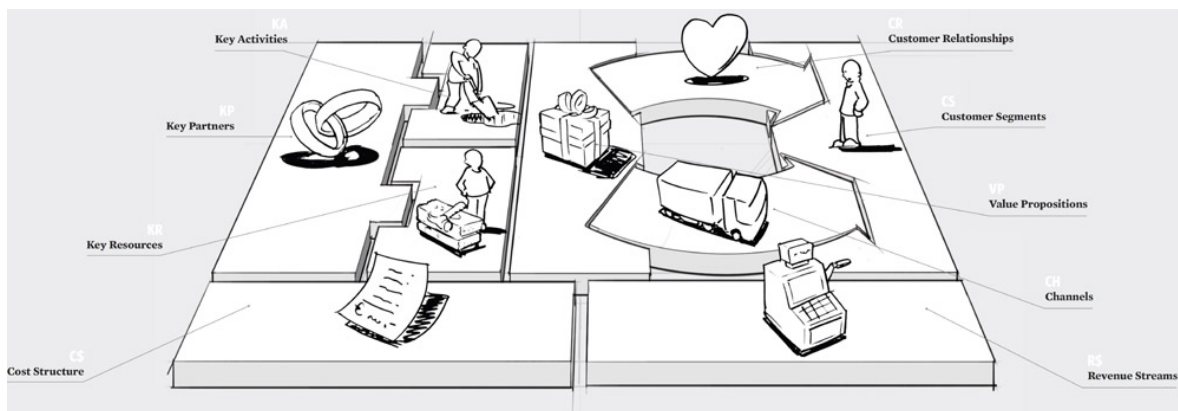

Figure 4.1 Business Model Canvas (Osterwalder et al., 2010)

Customer segments

The first building block in the business model canvas is the one representing the customer segments. This building block should define the different organizations or customers that a firm aims to serve (Osterwalder et al., 2010). Osterwalder et al. (2010) stresses that customers are at the heart of any business model since no firm can survive without paying customers. Customer segments helps a firm to group its different customers into distinguished groups based on for example common needs which will make it easier to serve them. Some examples of criteria that would opt for separating customer groups into different customer segments are if the customer groups require a distinct offer, if they are reached through different distribution channels, if they require different types of relationships and so on (Osterwalder et al., 2010). Firms choose to approach this in different ways. Some firms choose business models that focus on mass markets and do not distinguish between customer segments. On the other side of the spectra firms can use multi-sided platforms where business models focus on two or more separate customer segments (Osterwalder et al., 2010).

Value proposition

The second building block concerns the value proposition that the company uses to create value for their segment of customers. It is upon the value proposition that the customers decide which company that they want to do business with. The value proposition may solve a customer's problem or satisfy a customer's need. Osterwalder et al. (2010) states that in order to fit the requirements of the customer segment chosen, the company can build their value proposition by bundling products and services to fit the chosen segment's needs. The propositions are often of varying character, where some are new and innovative, whereas some may be similar to existing ones but with other features or added services. According to Osterwalder et al. (2010) the values created by the proposition may take two different forms, namely *quantitative* or *qualitative*. The former concerning the areas of price, speed or service and the latter, concerning design and customer experience. There are several ways by which a company may create value for the customer segment (Osterwalder et al. 2010). For example, a company can create value by satisfying a need that before was not perceived by the customers as a need as there had not been such an offering before. Other ways that a company can create value is by increasing the performance of their product or service or by customizing it to fit a specific type of need. Furthermore, value can be created by having a superior design, by having status linked to the brand or by offering value at a lower price than

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the competitors. Finally, a company can create value for their customers by helping customers reduce costs, making products or services available where they had not been available before, by increasing the convenience for their customers or by simply being good at getting certain jobs done (Osterwalder et al., 2010)

Channels

The third building block describes how a company will be able to reach its customer segments and thus deliver its value proposition. This building block is called channels and contains the different interfaces between a firm and its customers such as communication channels and distribution channels (Osterwalder et al., 2010). Since channels represent the touch points for the customers of a firm they are important to the customer experience. Other than delivering the value proposition to customers, channels can provide other functions such as providing customer support or informing customers of new products. Companies can either own channels or use *partner channels*. Furthermore, there are *direct* and *indirect channels* (Osterwalder et al., 2010). Choosing the right configuration of channels is a great challenge and there are many alternatives to choose from, own direct channels, own indirect channels, partner channels or a combination. Own channels may have higher margins but can be costly to operate whereas partner channels are indirect but on the other hand offer a wider reach. In figure 4.2 an illustration from Osterwalder et al. (2010) is shown of channels and their different configurations as well as the five phases channels have.

Figure 4.2 - Channel types and phases (Osterwalder et al., 2010)

Customer relationships

The fourth building block refers to how a company is to establish their customer relationships with specific customer segments. The relationships that companies have with their customers can, according to Osterwalder et al. (2010), range from relationships that are on a personal level to relationships that are completely automated. What drives the decision on what type of customer relationships to have is whether the company needs to *acquire customers*, *retain customers* or if they have to *boost sales*. The relationships that the company chooses to have with the customers strongly affect the overall customer experience. Osterwalder et al. (2010) gives some examples of different types of customer relationships that companies can use singularly or together with other types. Companies may choose to provide the customers with *personal assistance*, which can be further developed into *dedicated personal assistance* where a customer is given a dedicated representative by the company, like a key account manager. Customer relationships may also take less sophisticated forms such as *self-service* or *automated relationships* where there are no direct contact between the customer and the company. Furthermore, there are more modern types of customer relationships used by companies such as *communities* that can be used to understand the customers in a better way or *co-creation* where the customers may for example write reviews etc. on the products marketed.

Revenue streams

Revenue streams is the name of the fifth building block and it represents the money that is generated from the customer segments. Osterwalder et al. (2010) continues their metaphor where the customers represents the heart of the business models and states that revenue streams are the arteries. The key question for a firm is what value the customer segments are willing to pay? The answer to this can lead to the generation of one or more revenue streams. In a business model, revenue streams can take form in two ways; *Transaction revenues* that come from one-time customer payments or *Recurring revenues* from ongoing payments to pay for a value proposition or for post-purchase services. (Osterwalder et al., 2010). There are many examples on how revenue streams can be created. The most common revenue stream is asset sales which means selling ownership rights to a physical product like a car or a computer and is thus a transaction revenue. There are numerous ways of creating recurring revenue streams as well through different usage fee structures and licensing schemes.

Key resources

The sixth building block of the business model canvas is named key resources (Osterwalder et al., 2010). This building block represents key resources that are necessary for a business model to work. The key resources are a necessity for the previously mentioned building blocks. It is the key resources that make it possible for a firm to create and offer a value proposition, to be able to establish channels to reach markets, to maintain relationships with customer segments and also to be able to earn revenues (Osterwalder et al., 2010). Key resources can take form in *physical*, *intellectual*, *human* and *financial* resources and these receive different amount of focus depending on the business model. Physical resources are simply physical assets such as buildings or equipment. Examples of intellectual resources can be brands, patents, partnerships and so on. Human resources mainly concerns knowledge and skills embedded in people and is often more prominent knowledge-intensive industries. Financial resources are fairly self-explanatory as they mainly concern cash, lines of credit and so on (Osterwalder et al., 2010).

Key Activities

Key activities is the name of the seventh building block. If key resources represent what assets a firm needs to possess to make its business model work key activities represent what a firm must do in order to make its business model work. Hence, key activities are also necessary for the creation of value proposition, reaching markets, maintaining customer relationships and earning revenues (Osterwalder et al., 2010). Depending on the business model, these key activities may differ. Osterwalder et al. (2010) categorize key activities into three categories. These are *production, problem solving* and *platform/network*. Production revolves around activities that are part of the design and manufacturing process of products in large quantities. Production is mostly emphasized in business models of manufacturing firms. Problem solving activities focus on reaching new solutions for individual problems. These are often prominent in business models of consultant firms or other service organizations. Platform/Network activities are most occurring in business models that has some kind of platform as a key resource. This requires a lot of continuous development and maintenance of that platform. An example of this is eBay.com where the website is a key resource and key activities are related to keeping that key resource functioning and modern. (Osterwalder et al., 2010).

Key Partnerships

The eighth building block is the key partnerships of a firm. This building block describes the network of suppliers and partners that are necessary for making the business model work (Osterwalder et al., 2010). This is simply because a firm cannot possess all resources and perform all activities that it needs in order to make the business model work. These are common motivations for establishing partnerships. For example, a firm may enter a key partnership that aims to optimize the division of activities to gain economies of scale. Similarly, a firm might enter a key partnership to access some specific resources owned by a supplier. Another motivation for key partnerships is to reduce risk and uncertainty. In those cases key partnerships are often between competitors perhaps to influence some legislations while they in the same time are competing against each other. Examples of key partnerships can be *strategic alliances* between non-competitors, *coopetition* which is strategic partnerships between competitors, *joint ventures* and *buyer-supplier* relationships. (Osterwalder et al., 2010).

Cost Structure

The ninth and final building block is the cost structure. This building block contains all the costs that are generated when operating a business model. Maintaining customer relationships, creating and delivering value and generating revenue all generates costs. Business models can often be divided into being cost-driven or value-driven (Osterwalder et al., 2010). Cost-driven business models focus mainly on minimizing costs and their offering is often also focused on low prices (for example Ryanair). Value-driven business models on the other hand does not focus so much on the costs generated in creating the offering but rather focuses on the value creation. An example of firms with such business models is luxury hotels (Osterwalder et al., 2010). Furthermore, Osterwalder et al (2010) talk about four different characteristics that cost structures can have. Among these are *fixed costs* which are costs that remain the same regardless of changes in volume output. Contrary to fixed costs are *variable costs* that change proportionally to the volume output. Cost structures can also be characterized by *economies of scale* which means reduced cost per unit when increasing in volume which affects the business model of a firm. Finally, *economies of scope* can also characterize a cost structure. This means that a firm may get cost reductions through a larger scope of operations. An example of this is using the same distribution channel for different products. (Osterwalder et al., 2010).

4.2.2 Business model according to Mason and Spring

In *The sites and practices of business models* Mason and Spring (2011) set out to find out how business models are created and practiced. They do so by studying how the business models related to the music industry have been practiced and reinvented across history. They also argue that extending the level of analysis beyond firm level makes for greater understanding of the issue (Mason & Spring, 2011). They state that since a business model should be a representation of how a firm intends to do business, and industrial network literature clearly states that changes in a network can have implications on the firm itself (Snehota & Håkansson, 1995), neglecting the network perspective when describing the business model of a firm will only give a snapshot of a current state and not an applicable business model description over time (Mason & Spring, 2011). Furthermore, it is discussed that business models are structured and dynamic in its nature and that they are continuously developing systems. Mason and Spring (2011) state that "business models are not first designed and then implemented, but are more usefully thought of as strategy -as-practice; incrementally emergent and ever changing" (2011, pp. 1033). With this in mind, Mason and Spring (2011) created an illustration over a business model based on a summary over relevant

contributions to the business model literature. Their illustration contains three business model elements and is shown in figure 4.3.

The three elements of business models according to Mason and Spring (2011) are: Network Architecture, Technology and Market offering. Furthermore, as the figure illustrates, Mason and Spring (2011) argue that the three elements are interrelated. A change in the element of Technology may hence affect the element of market offering or vice versa. Similarly, the elements are connected to the context in which the business model is practiced. The business model may be influenced by changes in the context but at the same time may the context itself become influenced by changes in the business model.
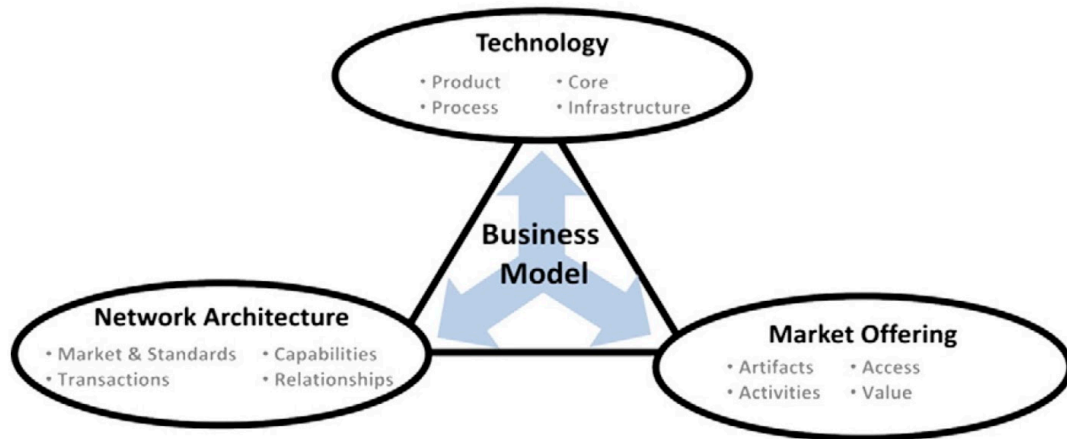

Figure 4.3 Business model elements (Mason & Spring, 2011)

Technology

In this aspect, Mason and Spring (2011) uses an interpretation of the word technology as both usage and knowledge of techniques, tools, systems, methods of organizations that or material products. As shown in figure 4.3 the element of technology is further divided into four categories: *product*, *process*, *core* and *infrastructure*. It is important to consider that direct control over these technologies differs in extent between different firms of a network. This means that depending on the case, varying amount of attention should be given to these different technologies. However, this does not mean that some of these technologies can be reduced as 'environmental variables' for a business models but rather as part of the network that practices the business model (Mason & Spring, 2011).

Product technology is probably the type of technology that first comes to mind for most people. It is the technology associated with the actual product. Mason and Spring (2011) exemplifies the different types of technologies by breaking down the technologies of an Apple iPhone. The product technology in this case is the iPhone itself. The technology that is being used in the actual creation of products or services is the *process* technology. Innovations in process technology can thusly lead to innovations in product technology and vice versa. Process technology in the case of the iPhone concerns design, build, shipping etc. (Mason & Spring, 2011). *Core* technology can be described the base for product technologies in many ways (Mason & Spring). An example of a core technology can for example be a flexible platform that a car manufacturers has developed. Such a platform makes it possible for a car manufacturer to manufacture several different car models based on the same platform using modularization. The cars will share a lot of core technologies in terms of suspension, transmission etc. In the iPhone case, core technologies are among other things batteries, LCD displays etc. which can be found in other Apple products as well (Mason & Spring, 2011). Given its large impact on product technology both in terms of features and

variants, core technology often receives a lot of managerial attention (Mason & Spring, 2011). Finally, the *infrastructure* technology is the technology that creates the possibility of making connections. It is best exemplified by the Internet which is an infrastructure technology that is a vital part in many business models. This also goes for the iPhone example since it is the Internet which makes the iTunes store and the App store possible (Mason & Spring, 2011).

Market Offering

The essence of the element of market offering concerns how to in the best way create value to the customer (Mason & Spring, 2011). In their definition of market offering Mason and Spring (2011) does however, unlike Osterwalder et al. (2010), suggest that the market offering only concerns the producer-user interface and does not include any specific features of the service or product that is being marketed. This results in the characterization of market offering as a way for suppliers to create value for the customers by different combinations of *artifacts*, *activities* and *access* to suppliers' capabilities and capacities. The value that is created is defined by Mason and Spring (2011, pp. 1035) as "the benefits derived by a customer from an exchange". What is further discussed on the subject of customer value is that different customers might derive different value from the same market offering. Although a market offering may contain many different factors, the artifact factor, exemplified by an iPhone changing hands from the supplier to the customer is still a vital part of the market offering. The access-based business model discussed by Mason and Spring (2011) is used in the sense that customers pay to get access to a network provided by the supplier, and can be exemplified by a mobile telephone operator charging customers to gain access to their network of mast, IT etc. The activities performed by a supplier are also a part of the market offering. Activities can be used singularly by suppliers using an activity-based business model but may also be used as a way of differentiation for a company utilizing an artifact-based business model (Mason & Spring, 2011).

To explain how these three parts are connected, Mason and Spring (2011), provides an example of Apple where consumers buy an artifact (an iPhone), but their market offering is also depending on how the artifact is connected to iTunes (access) and upgrades of the software (activities) that keeps the offering up to date.

Network Architecture

Like many publications in the field of business model research, Mason and Spring (2011) emphasizes the importance of the network. In line with their practical focus of the matter, they have further tried to structure the issue of network architecture and its role in the business model. In their efforts, they have briefly described four aspects of network architecture: *Capabilities, transactions, markets & standards and relationships* (Mason & Spring, 2011).

Capabilities in this context refer to know-how that an organization can keep, maintain and develop over time (Mason & Spring, 2011). With firms growing focus on capabilities, it has become far more common that firms focuses on their core capabilities and thus become more independent on other members of a network to be able to access non-core but still necessary capabilities. This trend has, according Mason and Spring (2011), greatly increased the benefits of using a 'business model thinking'. In a network, different firms have 'direct capabilities' which are capabilities that the firms themselves possess and this helps deciding who should do what in the network. When orchestrating who does what it is also important to remember the customer and its part in the network (Mason & Spring, 2011). There is also another set of capabilities to consider, namely, 'indirect capabilities' which are capabilities accessible through others in a wider business network. When discussing business, many authors refer to it as how to make money or how to design your business as to create revenues

(Mason & Spring, 2011). Because of this, business models needs to incorporate *transactions* taking place between firms. The task of working out how and where transactions are executed is a task that is not easily performed. The complexity of today's markets, which is a result of business models being more access-oriented or performance-based, makes this even harder (Mason & Spring, 2011). As technologies change and with it the markets, the places where transactions can take place are changed. Hence Mason and Spring (2011) argues that transactions have the possibility of changing the way business models develop.

Markets and standards are developed within markets as they evolve. As these markets and standards are developed within the market they set the basis for how easily companies can access other businesses within the network. Mason and Spring (2011) argues that these market and standards have two implications for businesses. Firstly, they may act as a way for managers to pursue and realize market opportunities for their business as they indicate how trades can be performed and what may be traded. Secondly, markets and standards can be a tool for creating new markets altogether. This can be achieved through influencing standards in way that benefits the focal company. Firms in a network are not connected only through transactions. As stated earlier, interdependence between firms in networks exist due to increased focus on core capabilities. Consequently, Mason and Spring (2011) has found that to reach innovation in for example an infrastructure technology, *relationships* that support innovation are important. These relationships also contribute in making the boundaries of firms less distinguished. Furthermore, when working relationships between firms are developed even further it may cause changes in what a firm actually does and the offering it tries to sell as well (Mason & Spring, 2011).

4.2.3. Business model according to Shafer, Smith and Linder

In an effort to help managers understand what business models are, Shafer et al. (2005) conducted a literature research covering 12 business model definitions. When analyzing these 12 definitions, 42 different elements, upon which the definitions were built, was found. Some of which was only occurring once whereas some were recurring. Shafer et al. (2005) choose to only use the blocks that were cited two times or more for their analysis. After performing the analysis, the authors found that the elements could be grouped into four main categories. Their findings are shown in figure 4.4.
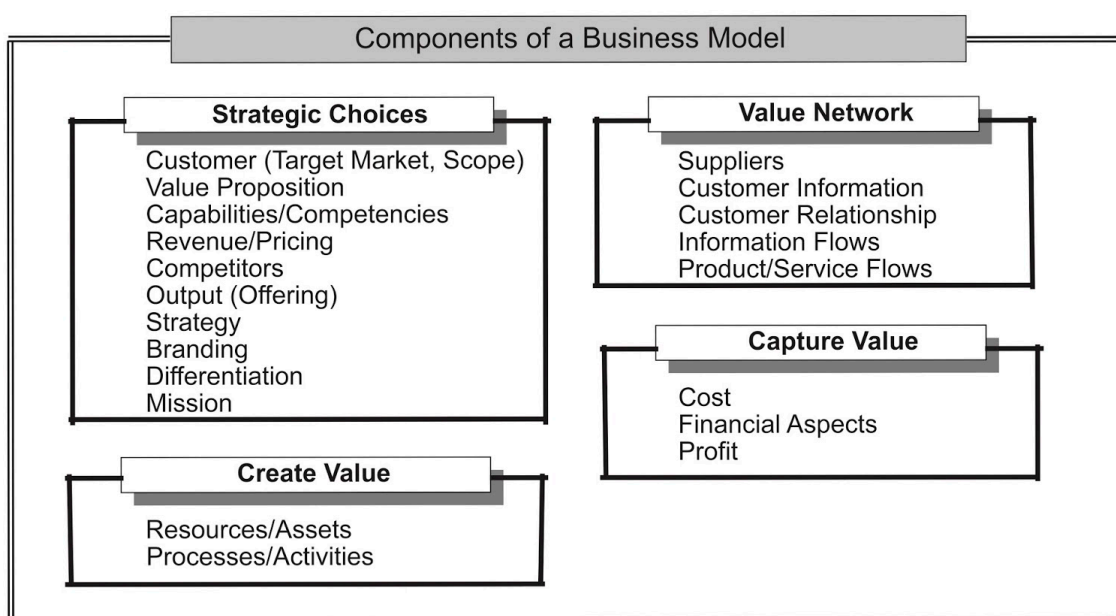

Figure 4.4 The components of a business model according to Shafer et al. (2005)

The four main categories that the components of a business models can be divided into are *Strategic choices, Value network, Create value and Capture value.* When comparing the business model canvas (Osterwalder et al., 2010) and the components of a business model according to Shafer et al. (2005) (see figures 4.1 and 4.4), it becomes evident that there are some building blocks and components that are similar or even share the same name. This is hardly surprising given the extensive searches that Shafer et al. (2005) has performed. What is clear however is that Shafer et al (2005) has chosen a much more detailed level when collecting the components. The component 'Value proposition' is a building block in itself in the business model canvas and within that description Osterwalder et al. (2010) points out that branding, pricing and differentiation are different ways of designing a value proposition. Shafer et al. (2005) on the other hand has separated these three into their own business model components. Similarly, when comparing the business model components presented by Shafer et al. (2005) with the business model elements articulated by Mason and Spring (2011) one can see that while they have named one of their components 'capabilities/competencies', Mason and Spring (2011) places this as a subcategory of the 'network architecture' element. This is probably due to the fact that the intentions of Shafer et al. (2005) were to collect and compile components published by other authors of business model publications rather than implementing these in a practical example. This allowed them to cover more components and consequently their view of a business model has wider spectra of components. They do however emphasize components which do not receive a lot of attention in the aforementioned frameworks (Osterwalder et al., 2010; Mason & Spring, 2011). 'Information flow' is one example of a component that is not mentioned in the business model canvas or within the three elements of Mason and Spring (2011). Unfortunately Shafer et al. (2005) does not provide a description of this component but consulting the original sources from which that component was collected shed some light on its meaning. The origin of the component information flow was from two studies which are both focused on E-business. Hence one may draw the conclusion that the focus on information flows is of extra importance in business models operating that kind of industry.

4.2.4 Business model according to Teece

Teece (2010) has published a paper that treats the subject of business models from the perspective of its importance for businesses and how it is connected to business strategy, innovation management as well as economic theory. For that reason, Teece relates more to the innovative branch of business model literature compared to Osterwalder et al.'s (2010) and Shafer et al.'s (2005) publications. Teece (2010) stresses that a business model should be looked upon as a conceptual model rather than a financial model of business. In his paper the essence of a business model is described as how a company plans to create value for their customers, how to tempt customers into paying for that value and how to make these payments into profit. A beneficial business model design is considered to be a vital ingredient if a firm wishes to reach success from innovation, solely innovative products is not sufficient. Therefore it is important to be aware of the design choices that exist when deciding on a business model (Teece, 2010).

According to Teece (2010), there are five elements that need to be determined when designing a business model. These elements are firstly, deciding what technologies and features the product or service marketed should contain. Secondly the company needs to determine what value they want to create for the customer by deciding what benefits the customer should experience from utilizing the service or product. Thirdly, the customers that should be targeted needs to be identified, which result in what customer segment to focus on. Fourthly, the managers needs to determine what revenue streams that are available and which best fit the customer segment that has been decided to target. Fifthly and finally, the

mechanisms that should ensure that the customer value is captured needs to be designed. Figure 4.5 shows an illustration of Teece's (2010) five elements.
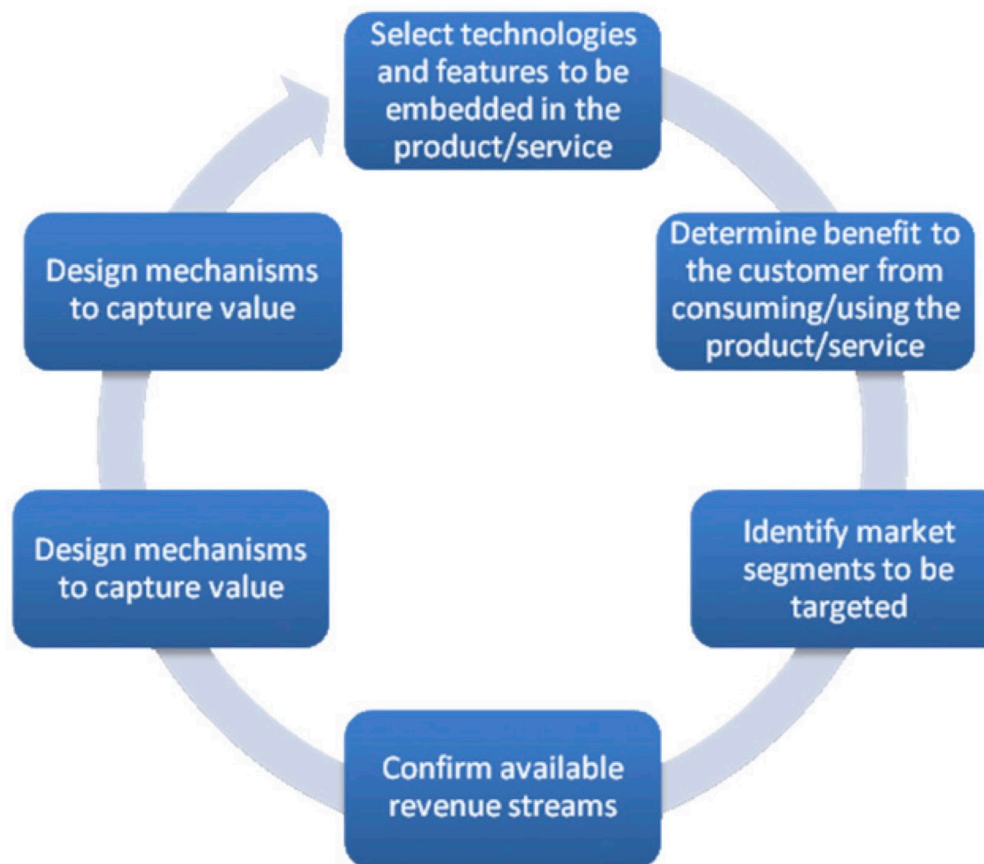

Figure 4.5 Elements of business model design (Teece, 2010).

Much like Mason and Spring (2011), Teece (2010) puts a lot of emphasis on technology and dedicates an entire 'element' to it. In this case however, technology seems to be more singularly focused on the actual features of the product or service whereas Mason and Spring (2011) also emphasizes the technology's role in the creation of the service and the widened customer experience. The three elements of benefits for customers, determine the market segments to focus on and what value streams to use, described by Teece (2010), are to be found in the Business model Canvas as well. A single element concerning how to capture value is however not explicitly addressed in the canvas, nor can it be found in Mason and Spring's (2011), but can nevertheless be found in Shafer et al. (2005), making the elements presented by Teece (2010) quite versatile.

Despite these similarities with some of the other contributions to business model literature Teece's take on business model still stands out in some aspects. The clear focus on business models as being something dynamic is matched only by Mason and Spring (2011) within the frameworks presented in this study. Teece (2010) argues keeping the business model updated is vital to success and he even states that an innovative business model in itself can be a route to success. The dynamic focus is highlighted in the way that the elements of business model design are presented since that clearly suggests an iterative approach which means that it is an ongoing continuously improving process. He also states that "Business models must morph over time as changing markets, technologies and legal structures dictate and/or allow" (Teece, 2010, pp. 177).

4.2.4 Business model according to Fielt

Another attempt on bringing clarity to the concept of business models was performed by Fielt (2014). The author investigated contemporary definitions of business models, frameworks and archetypes which would help generating a deep understanding of business models. This study was not a typical systematic literature review, instead focus was on discerning the underlying reasons behind different business model contributions. Upon this, Fielt (2014) formulated an own framework.

Fielt's (2014) framework is constructed in a similar way as the frameworks of Mason and Spring (2011), Teece (2010) and Shafer et al. (2005). That is, it is centered on a few core components (dimensions in this case). However, this framework differs in the sense that Fielt (2014) encourages scholars and practitioners to articulate elements or building blocks on a lower more detailed level on their own and unlike the other authors refrains from doing this himself. This is because he argues that contextual factors are of such significance that it would diminish the applicability of the framework. The four dimensions on an upper level that Fielt (2014) has articulated are 'the customer', 'value proposition', 'organizational architecture' and 'economics dimension'. An illustration of Fielt's four dimensions is shown in figure 4.6.
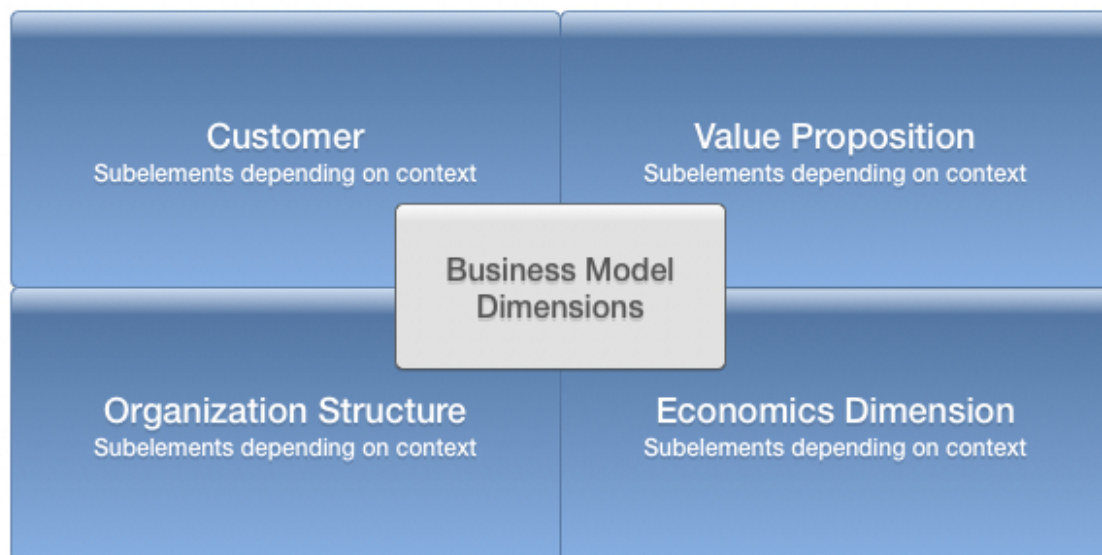

Figure 4.6 Illustration of the dimensions of a business model based from Fielt (2014)

The dimension of customer concerns what customers the company aims to target and what needs they want to have satisfied, which should be defined by a current and future state. The value proposition-dimension revolves around how the company should solve the customer problems identified. This is according to Fielt (2014) done by proposing an offering which obtains benefits that the customer can reap. Furthermore Fielt (2014) argues that the dimension of value proposition is the most central in a business model. This is also strengthened by the fact that the value proposition dimension is recurring as a core component in the bulk of the business models frameworks studied (Osterwalder et al., 2010; Teece, 2010; Mason & Spring, 2011) and as a subcomponent in the remaining (Shafer et al., 2005).

The organizational structure-dimension concerns resources and capabilities that are available within the organization but also within the network and how these can affect the value proposition. Fielt (2014) comments on the fact that this could be applied on both firm level and a network level but does not emphasize the network level as much as for example Mason

and Spring (2011). The dimension of economics is focused on how the company is to make money, which corresponds to 'capturing value' which is a central part in some of the previously mentioned frameworks (Fielt, 2014; Shafer et al., 2005; Teece, 2010). This regards the area of revenues but also areas regarding cost, such as economies of scale and margins. Furthermore Fielt (2014) stresses the economics dimension also concerns considerations on environmental and societal nature, and not only financial. This sets Fielt's (2014) framework apart from the previously presented frameworks as none of them comments on the use of the triple bottom line.

4.2.5 Summary of business model frameworks

The presented business model frameworks were summarized and this is shown in table 4.1. This was to get a better overview of the business model frameworks and especially their constituent elements and sub-elements as these became numerous. In order to better understand the underlying motives of the different frameworks the aims were included in the table as well. Furthermore, differentiating factors based on the previous descriptions were included to further strengthen how the different frameworks differ. This summary formed the foundation for the development of the conceptual model and in turn the fulfillment of the purpose of this study.

Table 4.1 Summary of Business Model Frameworks

Author	Aim	Differentiating Factors	Main Elements	Subelements
Osterwalder et al. (2010)	Create understanding for everybody	• Business model canvas which serves as a basis for discussion • Simple but not oversimplified • Easy to use to map a firms business model	• Customer segments • Value proposition • Channels • Customer segments • Revenue streams • Key resources • Key activities • Key partnerships • Cost structure	
Mason & Spring (2010)	Investigates how business models are created and practiced	• Taking a network perspective • Highlights that business models are dynamic • Are open minded to what type of firm, industry, network or market the business model should act in	• Technology • Market offering • Network architecture	• Product technology • Process technology • Core technology • Infrastructure technology • Access • Artifact • Activity • Capabilities • Transactions • Markets and standards • Relationships
Shafer et al. (2005)	Helping managers gain understanding of business models	Collected business model elements expressed in literature thus far	• Strategic choices • Value network • Create value • Capture value	• Customer • Value proposition • Capabilities/ competencies • Revenue/pricing • Output (offering) • Strategy • Branding • Differentiation • Mission • Suppliers • Customer information • Customer relationships • Information flow • Product/service flows • Resources/assets • Processes/ activities • Cost • Financial aspects • Profi

Author	Aim	Differentiating Factors	Main Elements	Subelements
Teece (2020)	Help managers understand the significance of business models by exploring their connection to Business strategy, Innovation management and Economic theory	• Emphasizes the dynamic of business models • Iterative process	• Technologies & Features • Benefits to customer • Market segments • Revenue streams • Mechanisms to capture value	
Fielt (2014)	Build consensus around the concept of business models	• Focuses on value creation from the customer perspective • Brings a generic offering and arguing for the importance of contextual adaptations	• Customer • Value proposition • Organizational architecture • Economics dimension	

4.3 Business model innovation

The argument that business models are something dynamic and evolving as expressed by especially Teece (2010) but also Mason and Spring (2011) calls for some further investigation on the notion of business model innovation. While innovation and business models often go hand in hand it is often in the context of having to match a business model to a new technology rather than developing a new business model on its own. Teece (2010) argues that a technological innovation is in no way a guarantee for business success, neither is good people or excellent leaders if not coupled with a well-matched business model. He does however state that there should be more focus on the actual business model innovation for firms that are looking to increase their business. Furthermore, an innovative business model can in itself be a success factor for a business, provided that it is a good model that is hard to imitate. Thus, Teece encourages firms to "...be seeking and considering improvements to business models - particularly difficult to imitate improvements that add value for customers - at all times." (Teece, 2010, pp. 187). There are however different views on how and when a firm should change their business model and this will be treated in the following section.

In regards to when a change in a firm's business model is needed, Johnson et al. (2008) argues that there are five occasions that calls for the development of a completely new business model. Firstly, one should develop a new business model if the existing product is too expensive or too complicated for the customers within the market segment. Secondly, if there is a completely new technology that opens the opportunity for new markets or if a tested technology could be implemented on a new market. Thirdly, when there is an opportunity to use a job-to-be-done focus on a market where it has not before been used, for example FedEx entered the package delivery industry and delivered packages much faster and with much higher reliability than other companies. Fourthly, to fend off low-end competitors, such as the low price car manufacturer Tata, who are disrupting the order within the market. Fifthly, one should reinvent ones business model if the basis of competition within the market is shifting, for example from products to usage (Johnson et al., 2008). However, Johnson et al. (2008) stresses that companies should not undertake a change in their business model lightly. Radical changes to the business model is not always necessary, as companies can achieve changes in

the market using other tools such as introducing new products, or implementing smaller changes to the business model.

Similarly, Teece (2010) argues that business models need to be developed continuously. As described earlier, firms should always be on the lookout for possible improvements. Curiously, the arguments that Johnson et al. (2008) have for completely changing a business model are very similar to Teece's (2010) arguments to why a business model needs to be continuously developed and evaluated. In business model development it is important to stay flexible and there is almost always a great deal of trial and error in the development of a new business model (Teece, 2010). Aligned with this, a new business model can be referred to as a provisional business model. To clarify, "a business model is provisional in the sense that it is likely to be replaced by an improved model that takes advantage of further technological or organizational innovations" (Teece, 2010, pp. 187). When designing a provisional business model, or a completely new business model for that matter, there needs to be an understanding of some fundamental 'deep truths' (Teece, 2010). These deep truths concern truths about the customers and their characteristics, the customer needs, spoken or unspoken and whether or not the firm or any competitor is satisfying those needs as well as possibilities for improvements from a technological or organizational perspective. Uncovering these truths will help in the development of a provisional business model and for this reason Teece (2010) have created key questions that needs to be dealt with when designing a provisional business model. These key questions help evaluating a provisional business model against its current business ecosystem but also against how it may evolve. The key questions can be seen in figure 4.7.

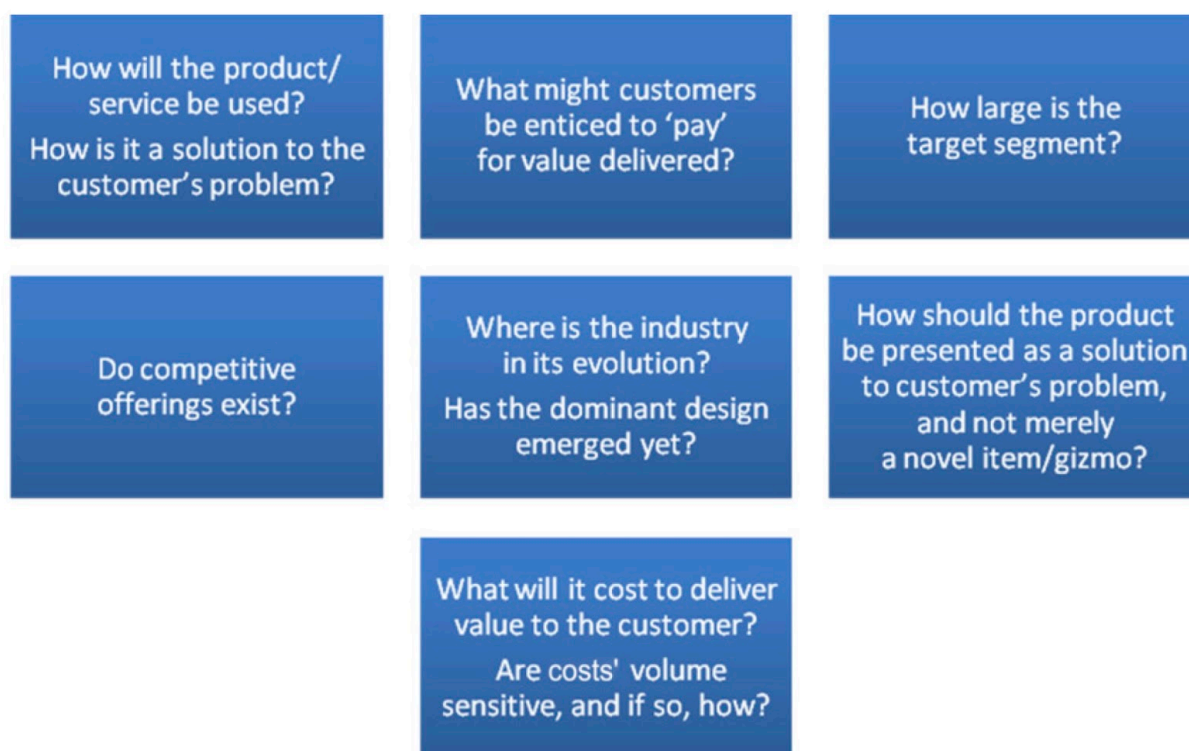| How will the product/ service be used? How is it a solution to the customer's problem?	What might customers be enticed to 'pay' for value delivered?	How large is the target segment?
Do competitive offerings exist?	Where is the industry in its evolution? Has the dominant design emerged yet?	How should the product be presented as a solution to customer's problem, and not merely a novel item/gizmo?
	What will it cost to deliver value to the customer? Are costs' volume sensitive, and if so, how?	

Figure 4.7 Questions to ask about a (provisional) business model (Teece, 2010).

Looking at the questions stated by Teece (2010) one can recognize similarities to Johnson et al.'s (2008) steps you should consider when developing a new business model. The first is to recognize an opportunity to satisfy a customer need, which is similar to the first question stated by Teece (2010). Furthermore Teece (2010) mentions two questions regarding what the

customers are willing to pay and what the costs are for delivering value to the customers. This area is covered by Johnson et al. (2008) as well. They do however discuss it in terms of how to fulfill the customer need and still make a profit. In their third step, Johnson et al. (2008) argue that in order to know if proceeding to changing ones business model is the right choice, you should compare the existing business model to the changed business model and investigate what is needed in order to reach that new state. A practical way of doing this is by deconstructing the business model into its elements. This makes it possible to compare the business models in regard to individual elements and combinations of elements. This method of deconstructing business models into its elements is something that is suggested by both Chesbrough (2010) and Teece (2010). The process of changing or developing the business model on a sub-elemental level will in addition provide opportunities to optimize the matching of creating and capturing value and hence improving the business model (Chesbrough & Rosenbloom, 2003). Working with deconstructed business model illustrations is also beneficial since it provides a way of proactively simulating changes in the business models before actually implementing them. Making the implementation phase less problematic since it normally is obstructed by barriers mainly connected to internal resistance (Chesbrough, 2010).

4.4 Conceptual model

Based on the previous sections, it becomes evident that a business model framework can take its form in a number of different ways. The previously described business model frameworks are examples of pre-established models that one can use but also serves as inspiration in the development of a new framework. Contextual factors play an important role for the design of a business model. One of the latest and most comprehensive publications on business models presented in this report argues very clearly that a business model is highly contextual (Fielt, 2014). This is also the reason for why Fielt (2014) chooses to only define four generic core dimensions of a business model arguing that sub elements should be generated within their context. Furthermore, the fact that the numerous publications on the area treat business models from the perspective of different industries and also aim to increase understanding on different managerial levels (Fielt, 2014; Osterwalder et al., 2010; Shafer et al., 2005; Mason & Spring, 2011; Teece, 2010) argues for contextual considerations when designing a business model. Based upon this argumentation this study followed the recommendations from Fielt (2014). It was therefore deemed necessary to create a conceptual model to ensure that a business model could be adapted to this specific context.

The suggested methodology for innovating business models that encourages the deconstruction of business models into its constituents was adopted (Chesbrough, 2010; Teece, 2010). Hence, the business model that should be used in the analysis was based upon the business models presented in the theoretical framework. From table 4.1 that summarized the different business model frameworks, the different constituent elements could be extracted. The elements were categorized regardless of their previous affinities and the initial number of elements and sub elements extracted from table 4.1 were 49. After categorizing and removing duplicates this number was reduced to 18. These 18 elements and their respective categories are shown in table 4.2.

Table 4.2 Business Model Elements

Customer	Technology	Managerial
• Relationships • Segments	• Product technology • Process technology • Core technology • Infrastructure technology	• Mission • Strategy
Value proposition	Organizational structure	Capture value
• Benefits to customer • Artifact, access, activities • Branding • Differentiation	• Key partnerships • Key relationships • Key activités • Channels	• Revenue streams • Cost structure

As mentioned previously, contextual factors are of paramount importance for the development of a successful business model. Therefore, the conceptual model needs to include contextual factors from the context of this study. In this study, the contextual factors stem from two sources, the mobility industry in itself and Wallenstam Drive.

The business model elements and the contextual factors capture the most important parts of the context and the theoretical framework. However, the analysis will require a business model that can be easily analyzed but also easily modified for reaching a desired future state. Consequently, there was a need for the business model to support redesigning and future scenarios. For this matter, the key questions for designing a provisional business model (Teece, 2010) were found suitable. These key questions are argued to cover areas that need to be considered when designing a provisional (adapted) business model. Including these key questions aid in making sure that the model will be renewable. Thus the conceptual model includes building blocks for a business model based on the theoretical framework, it ensures that the business model is adapted to the context, through the key questions it ensures that a future state business model can be developed and that future changes can be made to the business model. A visualization of the conceptual model can be seen in figure 4.8.
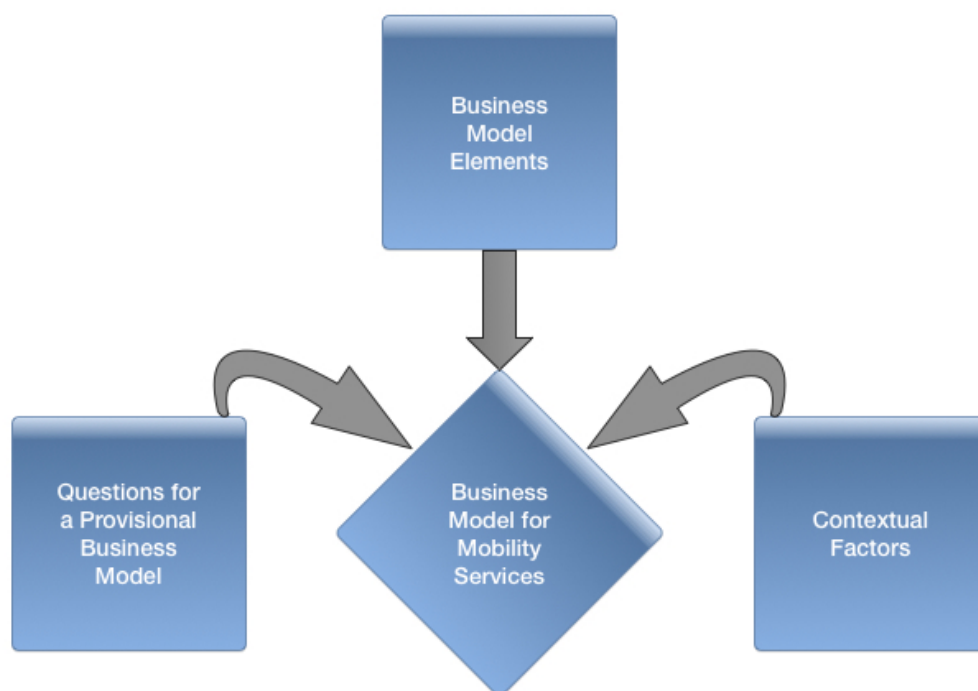

Figure 4.8 Conceptual Model

5. METHODOLOGY

The following chapter describes the methodology used for this study. It aided in the fulfillment of the purpose of this thesis and in providing answers to the stipulated research questions. This chapter will cover chosen research method, data collection and data analysis.

5.1 Research Method

The research method that was used for this thesis was an explorative case study. A case study is a suitable research method as it allows for in-depth focus of a current phenomenon in a real-life context thus dealing with higher complexity of that phenomenon rather than diverting focus to many different issues (Ghauri & Grönhaug, 2005; Denscombe, 2010). Furthermore, Denscombe (2010) states that embedded in the case study approach is the freedom to use different research methods, in fact, it even encourages the use of multiple methods. In addition Bryman and Bell (2011) argue that this avoids the issue of relying on only one data source. The fulfillment of the purpose of this thesis requires the employment of multiple methods that support both quantitative and qualitative data collection and analysis. One can say that this study has to stand on two legs, one quantitative part which acts as a support for the qualitative part. To clarify, the quantitative part aided in generating an understanding from which the qualitative part could draw conclusions. The quantitative part concerned investigating current and potential customers of Wallenstam Drive and their opinions on the service. Consequently, this part was performed as a survey which according to Denscombe (2010) is used for capturing the characteristics and opinions of a selected group and is commonly used for identifying customer preferences.

As a first step, after the research question's order and content were set, an initial gathering of empirical information regarding mobility services was performed. This information generated a need for changing the research questions to better fit the context as well as acting as guidance for the theoretical framework. The theoretical framework was however developed and updated during the study as new insights evolved by digging deeper into the area of mobility services and through other empirical findings. This process of research, where empirical fieldwork, theoretical framework and case analysis are evolving simultaneously is called systematic combining and was developed by Dubois and Gadde (2002). Systematic combining is a process of matching theory and reality and of directing and redirecting. This in turn is affected by empirical findings, theory that is available, the framework of the study and the evolving case. The systematic combining process can be seen in figure 5.1.
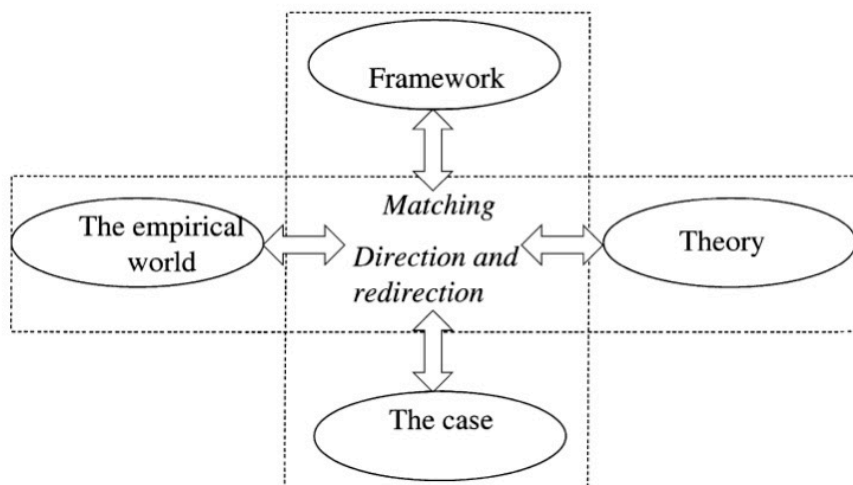

Figure 5.1 The Process of Systematic Combining

Dubois and Gadde (2002) argue that a standardized way of working hinders the researcher from realizing the full potential of case studies since going back and forth between the different elements allows for a greater understanding of both theories and empirics. As mentioned before, one of the processes within systematic combining is matching. Matching allows the researcher to go back and forth between the framework and the data sources, allowing for a much more correct match between reality and theory (Dubois & Gadde, 2002). Furthermore, Dubois and Gadde (2002) argue that by using multiple sources the researcher may reveal unknown areas of the studied area which results in a need for directing and redirecting the study, which is the other main element of systematic combining. Through this process the demand for new theory is created and hence theory is not forced into contexts or areas it is not aimed for. Moreover, using several sources and going back and forth between analysis and interpretation allows for the use of triangulation.

5.2 Developing the Theoretical Framework

To fulfill the purpose of this study a significant amount of information needed to be gathered. Literature regarding business models constitutes the backbone of the theoretical framework and was solely gathered from literature searches in Chalmers Library database Summon. The search itself was performed using keywords like 'Business models', 'Business model definition', 'Business model framework' as well as 'business model' combined with different words for 'components', 'elements', 'dimensions' etc. Initially, general descriptions of business models were collected establish a holistic understanding of the concept. Thereafter, different frameworks on business models were investigated to create a foundation on which a conceptual model for the specific context could be created. The concept of business model as a research subject has increased in frequency substantially in recent times and therefore the different contributions to this framework had to be selected with care. This was performed using specific criteria. First and foremost, the publications chosen for this study are renowned and the authors had in many cases performed multiple studies on the subject. Furthermore, the publications were considered trustworthy since they had been cited many times. Another criterion that affected the selection of publications to incorporate in this study was that they provided different inputs to the framework. That is, that some articles were written from an innovation perspective whereas others from a strategic perspective. This ensured a more holistic understanding of the concept and for the same reason articles that provided a generic perspective on business model frameworks were also included. Finally, one criterion was that the studies should not be to aged, thus insuring its relevance. The oldest contributing publication for this framework was published in 2001 and that was from a well-known constellation of authors. To gain understanding about how business models can be renewed and developed, literature concerning business model renewal and innovating business models was consulted. Concluding the theoretical framework is a conceptual model of a business model. The conceptual model was created to ensure that the business model elements most suitable for fulfilling the purpose of this study could be used in the analysis.

5.3 Data Collection

The following section will present the approach that was used when collecting data about mobility services, empirical data regarding Wallenstam Drive as well as an argumentation for the use of a survey and how the survey was conducted.

5.3.1 Mobility services

As for mobility services, information was gathered with the purpose of serving as inspiration and facilitating understanding of how the service of the context could be improved. The ambition was also to gather information about barriers, possibilities and usage of mobility services. In addition, this data aided in understanding how similar services are used elsewhere and thus provided an insight into how the typical user looks in other places which could be compared to empirical findings. The concept of mobility services is however a relatively new notion and research on the subject was found to be scarce. Since studies on mobility services are scarce, information about existing mobility services is not abundant and a lot of the information had to be collected from the mobility services own web pages and from articles describing the services.

While the investigation of these different mobility services provided some information on demographic characteristics of users and their motivational factors for joining different mobility services, the information was sporadic at best. Consequently, this information needed to be complemented and while the studies on mobility services are very few, the studies on carsharing are far more numerous and comprehensive. Therefore, information regarding demographic characteristics of users and their motivators was gathered from studies on carsharing. This is not regarded as an issue since the persona that uses carsharing is assumed to be very similar to the persona that would use a mobility service. Such information could be found in studies from governmental institutions, academic researches as well as market analyses made by industrial companies and Chalmers Library's database Summon was the tool for locating these studies. From these publications success factors were identified based on studies made on successful carsharing ventures. Furthermore, knowledge regarding the rationales of users that deepened the understanding of mobility service usage was gathered through aforementioned studies.

5.3.2 Interviews and meetings - Wallenstam Drive

Information on Wallenstam Drive, how it works and how it was developed as well as existing and potential members of the service also needed to be gathered. The information was gathered through a combination of primary and secondary sources of data, depending on the information. Information obtained by the authors themselves is categorized as primary data whereas data that is collected from previous studies is considered as secondary data.

An understanding of how the service of Wallenstam Drive was developed and is currently working had to be established. While some of this information could be obtained from handouts and PowerPoints provided by the communicator of the project, deeper knowledge was needed. The best sources of information on that issue are representatives from the actors involved in providing the service. Thus, this was primary data and could either be gathered through interviews or questionnaires. The fact that there is a very limited population of people that possess this knowledge argued for the use of interviews as data collection method (Denscombe, 2010).

There are many different ways to perform interviews in research projects. Depending on the circumstances, the choice can be to conduct interviews over the Internet, over the phone or face to face. Phone and Internet interviews are cheaper and in many cases easier to arrange but lack the possibility to interpret the interviewee's reactions and body language (Rowley, 2012). The structure of interviews can also vary from structured to semi-structured and unstructured. Structured interviews are easier to analyze as the interviewee's way of responding is restricted. These are often used for gathering larger volumes of data (Denscombe, 2010). In semi-structured interviews the interviewer keeps some structure in

regards to issues and questions but the interviewee is given much more freedom to elaborate on answers (Wilson, 2014). Unstructured interviews provide even more freedom for the interviewee to elaborate and the interviewer only provides topics. Unstructured interviews generate vast amounts of diverse data and are therefore often very hard to base an effective analysis on. Considering this, the chosen way of performing interviews for primary data collection was to conduct semi-structured interviews since those can yield qualitative in-depth information based on predetermined questions. Furthermore, the interviews were conducted face-to-face which facilitated the information exchange as stated previously by Rowley (2012). Also, the number of interviews was relatively few, which meant that face-to-face interviews did not result in too much work as face-to-face interviews might do when the number of interviews is higher (Denscombe, 2010).

5.3.3 Questionnaire

Once sufficient knowledge about Wallenstam Drive was collected the next step was to gain knowledge about the current and potential users of Wallenstam Drive. Sunfleet has been and is continuously gathering data regarding the usage of the service such as: the number of members, age of the members, gender and geographical area as well as other demographical data. Data regarding the usage of the service such as when and for what duration the cars are used was also accessible. The available data was used in order to gain an understanding of how the service is used and what type of customers that presently are using the service, but also other demographical aspects, such as what potential customers there are, can be determined. This information was supplemented by primary data through questionnaires.

To gather the specific information that was needed a primary source of data was needed so that the content could be controlled. The source of information on the current, and potential, customers' characteristics and their perception of Wallenstam Drive as well as aspects that they would like to improve could only be extracted from the customer themselves. For the collection of this information it was decided to use a questionnaire. Denscombe (2010) argues that the typical data that is most advantageously collected with questionnaires are factual information (such as address or age) and opinions. This was precisely the type of data that was collected through the questionnaire in this study. Furthermore, Denscombe (2010) has stated that questionnaires are suitable in following scenarios:

- When there is a large number of respondents on different locations

- When the sought after information is relatively straightforward

- When there is a need for standardized data from identical questions but still no need for personal interaction

- When the respondents can be expected to be able to read and understand the questions

- When the social climate is open enough to allow honest answers.

These examples of scenarios were the basis for the decision to use a questionnaire. In this case the possible respondents were over a thousand people living in different buildings. The sought after information was meant to reflect some demographic characteristics as well as some personal opinions of the respondents, which is fairly straightforward information. The other aspects of needing standardized data without needing personal interaction and having respondents that can understand and give honest answers also applied which opted for the use of a questionnaire. As for the type of questionnaire, the alternatives are postal or internet-based. However, the time constraint favored the internet-based alternative.

The questionnaire used in this study was developed along with the recommendations of Denscombe (2010). A front page was created which presented the background of the study,

who the sponsor was and who the researchers were as well as the purpose and expected time required to respond on all questions and concluding with thanking the respondents in advance for participating as can be seen in appendix A. The questionnaire was written in Swedish, which required the researchers to translate the answers. This was not considered an issue since the subject is straightforward and very little room for misinterpretations existed. In regards to the phrasing of the questions, Denscombe's (2010, pp. 163-164) recommendations were used as a checklist:

Table 5.1 Recommendations when phrasing questions (Denscombe, 2010)

Make sure that the wording is completely unambiguous	Avoid vague questions. Questions should be as specific as possible
Use only minimum amount of technical jargon	Use wording that is suited to the specific target group
Keep the questions as short and straightforward as possible	Avoid asking the same question twice in a different fashion (except as 'check' questions)
Avoid the use of 'leading' questions	Be sure to include sufficient options in the answer
Pay attention to the way the questions are numbered	Avoid words or phrases that might cause offence

The process of developing the questions consisted of a few steps. Firstly, the overall categories of information needed were decided by backtracking from the future analysis. That is, what kinds of information will be needed to perform the analysis? The broad categories that were created were demographical data, attitudes, reasons and barriers for using Wallenstam Drive, usage of Wallenstam Drive and finally possible improvements. Thereafter, mind-maps were created based on these broad categories to generate questions. Since the number of respondents was so many, it was decided to use multiple-choice questions to a large extent as seen in appendix A. This was to reduce the amount of work needed to compile all data from the questionnaire (Denscombe, 2010). Nevertheless, some open text questions were added to provide the respondents with the possibility to with their own words describe some phenomena. Open text answers were used when asking the respondents what changes they would like to see in Wallenstam Drive as it allows for richer and more complex answers (Denscombe, 2010). Also, open text answers were added to complement some of the pre-given answer options in some questions. As for the answer options these also needed to be developed with care to make sure that the respondents were given the possibility to answer the questions as precisely as possible. The development of these options was developed largely through taking inspiration from some of the studies performed on other mobility services. For example, for the questions regarding demographic data, even though that was fairly straightforward some of the options were inspired by the studies on UbiGo, BeMobility and the Momo study (Sochor et al., 2014; Ruhrort et al., 2014; Momo, 2010). When it comes to the options with regards to why people choose to use or considered using Wallenstam Drive the Momo (2010) study was very helpful. Since that study had concluded which motivational factors that were of biggest importance for joining carsharing services throughout Europe, these motivational factors could be used as options. The respondents were

asked to rate these different options depending how influential they were on the decision of using or considering to use Wallenstam Drive.

As mentioned before the attitudes of the respondents play a large role in the questionnaire it was deemed advantageous to mainly use Likert scale in the questionnaire, as Likert scales are commonly used for consumer research (Danaher & Haddrell, 1996). This implies providing an example or statement upon which the respondent are to answer how strongly they agree or disagree with that statement or example (Jamieson, 2004). Accordingly, Likert scales were for questions that investigated for example the respondents' attitude towards the use of public transportation.

When asking multiple-choice questions, the respondent can be asked to choose an alternative or many. Furthermore the respondent can be asked to rate or rank the different options in the way that it bests describes the respondent's opinion on the question. For this study, the most informative way was to ask the respondents to give their opinion on each of the options which opts for ranking or rating. However, since the information sought after concern the attitude of the respondents towards the different alternatives it was decided to choose rating because ranking would have forced the respondent to choose between the alternatives (Vannette, 2014). Rating gives the possibility of assigning different options with the same amount of points, a feature which was deemed to be appreciated by the respondents since it would not force them to choose 'one best' option. When using rating questions one has to decide what type of scales to use. The Likert scale is mostly used with five or seven point scales and to be consistent throughout the questionnaire it was decided to use the same scales in the rating questions which were not necessarily Likert scale-based (Jamieson, 2004).

5.4 Data analysis

Information gathered from the questionnaire was used to establish the characteristics of the current and potential customers and what their needs are. In order to do so the data obtained from the questionnaire was analyzed. First the responses were analyzed with the entire population as a basis. However in order to gain a deeper understanding of the background and thus the intentions of the respondents' answers cross-referencing was performed on the obtained data. The aim of performing this cross-referencing was to be able to separate different groups from each other and hence reduce the impact of biases. The cross references performed worked as a tool for discovering how the answers differed between for example car owners and non-car owners but more importantly between members and non-members of Wallenstam Drive. This was of importance as it provided a higher chance of fulfilling the purpose of increasing the usage of Wallenstam Drive since that in turn requires a deep knowledge of the potential customers and their characteristics and needs.

The data that concerned demographical characteristics was compared to the known demographical characteristics of users of other mobility services in order to compare the persona of the potential or current Wallenstam Drive user with the persona of a user of another mobility service. Furthermore, the perceived problems and possibilities for improvement expressed by the users were compared to the perceived problems and possibilities for improvement provided from other mobility services. Comparing the findings from these two sources was used to find if there were some aspects of a mobility service that Wallenstam Drive seems to be lacking compared to other mobility services. Matches between these two sources were also used to see what issues that were most important to address in order to increase the usage of the service. Finally the empirical analysis was concluded through collecting the most significant aspects and concrete changes that the empirical answers and the comparison against other mobility services called for.

5.5 Conceptual Model

The analysis required a remodeled business model adapted to mobility services. To make sure that all important part from the theoretical framework and the empirics were considered a conceptual model was generated. First the suggested methodology for innovating business models suggested by Chesbrough (2010) and Teece (2010), that encourages the deconstruction of business models into its constituents, was adopted. This meant summarizing all the business model frameworks in the theoretical framework along with their constituent elements. There was however some duplicates or synonyms in this table which meant that these needed to be further reduced. To make this work easier, the elements were categorized regardless of their previous affinities. The initial number of elements and sub elements extracted from table 4.1 were 49. A screening process in which the duplicates were removed and elements with similar meaning were merged into one element was executed. After categorizing and removing duplicates this number was reduced to 18.

In this study, the contextual factors stem from two sources, the mobility service industry in itself and Wallenstam Drive. To discern the most important contextual factors, prominent aspects from both Wallenstam Drive and the mobility service industry were compiled. By matching these summarized aspects against each other a small number of broader implications could be identified. These implications were considered the most important contextual factors and were included in the conceptual model.

In the process of creating the conceptual model, it was recognized that other than the business model elements and contextual factors there was a need for a feature that took future adaptations better into account. This was deemed necessary since the business model that would be developed through the conceptual model needed to be able to capture both a current and a future state. From the theoretical framework it was found that the key questions for designing a provisional business model (Teece, 2010) provided this feature. Hence, these key questions were included in the conceptual model thus ensuring the future adaptability of the remodeled business model. Based on the aspects discussed, namely the business model elements, the contextual factors and the key questions for a provisional business model, the conceptual model for this study could be developed, which in turn enabled the development of the remodeled business model in the analysis.

Once the conceptual model and the implications of the empirical analysis were defined, the remainder of the analysis followed the following chronology. The conceptual model was used to develop a remodeled business model framework that captured all the important aspects of this study, both from the theoretical framework and the empirics. This remodeled business model framework was applied to Wallenstam Drive to map a current state of their business model. The current state of the business model was necessary because it set the premises on which the future state business model could be developed. The important implications and changes identified in the empirical analysis were used as input when creating the desired future state of the business model of Wallenstam Drive which was created in the remodeled business model framework. See also figure 1.1 for an illustration of the analysis' structure.

5.6 Discussion on quality and validity

In order to assure one research's integrity it is important that the validity of the research is considered. Validity will answer the question if the researcher performing the research is identifying, observing as well as measuring the area the research was aimed for (Bryman & Bell, 2011). Moreover Bryman and Bell (2011) discuss that validity can be divided into two building blocks. These two blocks are internal and external validity. Internal validity concerns the match between the theoretical and empirical findings as well as the credibility of the

findings whereas the external validity concerns the research results' generalizability in other settings. Another area that affects the quality of a research is the reliability of the study. The reliability of a study is the way in which the research is repeatable.

The use of systematic combining is a way of ensuring validity. This is because it secures matching and direction of the study by enabling evolvement and iteration of the theoretical and empirical findings simultaneously. When new information was gathered, it was always questioned if this data will direct the study in the right way or not and hence the iterative process allowed for ensuring the validity. In order to further ensure that the study was progressing in the right direction, continuous meetings were held with the supervisors. Furthermore, during the entire process of the study it was made clear that all data gathered was reviewed by both researchers as a way of minimize the risk for bias and thus ensuring the validity.

The validity of a study can be further strengthened by the use of triangulation (Bryman & Bell, 2011). Triangulation enables the researchers to gain a holistic overview which is beneficial when using several types of information which is the case when using case study as a research method (Ghauri & Grönhaug, 2005). In this study three types of triangulation was used thus ensuring validity. Method triangulation was used since both theoretical and empirical data collection was performed. Furthermore, multiple theories were used in the study resulting in the use of theory triangulation. Finally, data triangulation was used as the survey was aimed at both members and non-members of the survey.

One quality issue was that the only source of information regarding the members and non-members was the questionnaire. The reason for this being an issue is that it does not provide the same nuanced picture that for example a face-to-face interview would have. Also, there is a risk for misinterpretation of the questions from the respondents´ side. The population of respondents of the questionnaire was a mixture of members of Wallenstam Drive and Wallenstam residents registered to Wallenstam's 'my pages'. This was because direct communication channels to these respondents existed. However, this may bring some bias towards interest in new technology since this part of the population may be more interested of that. On the other hand this is not something that hampers the study as that is the part of the population that the service intends to target. Another quality issue was that due to issues with the questionnaire from Wallenstam's side the questionnaire was delayed, hence reducing the time for analysis.

Regarding the data collection, the data within the theoretical framework was exclusively collected through the Chalmers University of Technology library. The reason for this was to make sure that all data came from trustworthy databases. However regarding the mobility services, much data had to be collected from the mobility services' websites, which could mean that data might be biased.

6. RESULTS FROM QUESTIONNAIRE

This chapter will present the findings derived from the questionnaire that was sent out to Wallenstam Drive users and Wallenstam residents registered to Wallenstam's 'my pages'. Hence, both existing customers and potential customers to Wallenstam Drive provided input into the findings presented below. Of around 1000 recipients around 220 answered.

Population

When looking at the population that answered the questionnaire one can see that the majority is between 18 and 40 years old (see figure 6.1). Among the respondents, independent of age, the distribution between men and women was approximately 50/50. The respondents that are members of Wallenstam Drive have an average age 38. Furthermore, as presented in figure 6.2 the majority of the people answering the questionnaire live in households with one or two people, accounting for 79 %. In addition, within the households with more than two people one could ascertain that one of the members in the households was a small child or a young teenager. When asked about their occupation it was evident that the majority of the respondents are employed since this category accounted for 85 % of the answers as shown in figure 6.3. Moreover, almost all of the respondents (93 %) answered that they have a driving license.
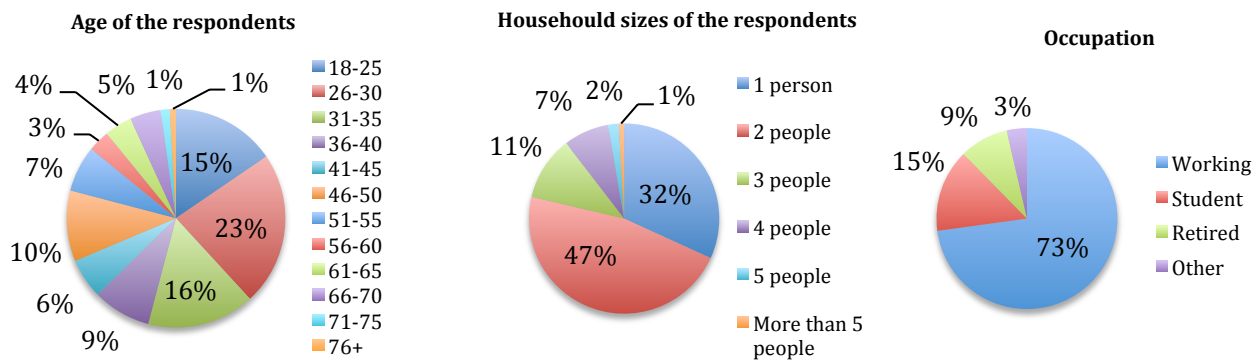
Figure 6.1-3 Age, household sizes and occupation of respondents

Attitudes

The responses to the questionnaire also provided some input regarding some attitudes and opinions of the present and potential users. When asked whether the respondents considered themselves environmentally conscious it was seen that almost all of the respondents consider themselves environmentally conscious on some level, which can be seen in figure 6.4. Moreover figure 6.5 presents that almost 40 % responded that they always choose the environmentally friendly alternative when purchasing an item or service and 50 % responded that they occasionally choose the environmentally friendly alternative when possible. Furthermore, the surveyed users and potential users are interested in new technology. Up to 92 % responded that they are interested in new technology to some extent and 63 % responded that this is reflected in their purchasing behavior as can be seen in figure 6.6 and figure 6.7.
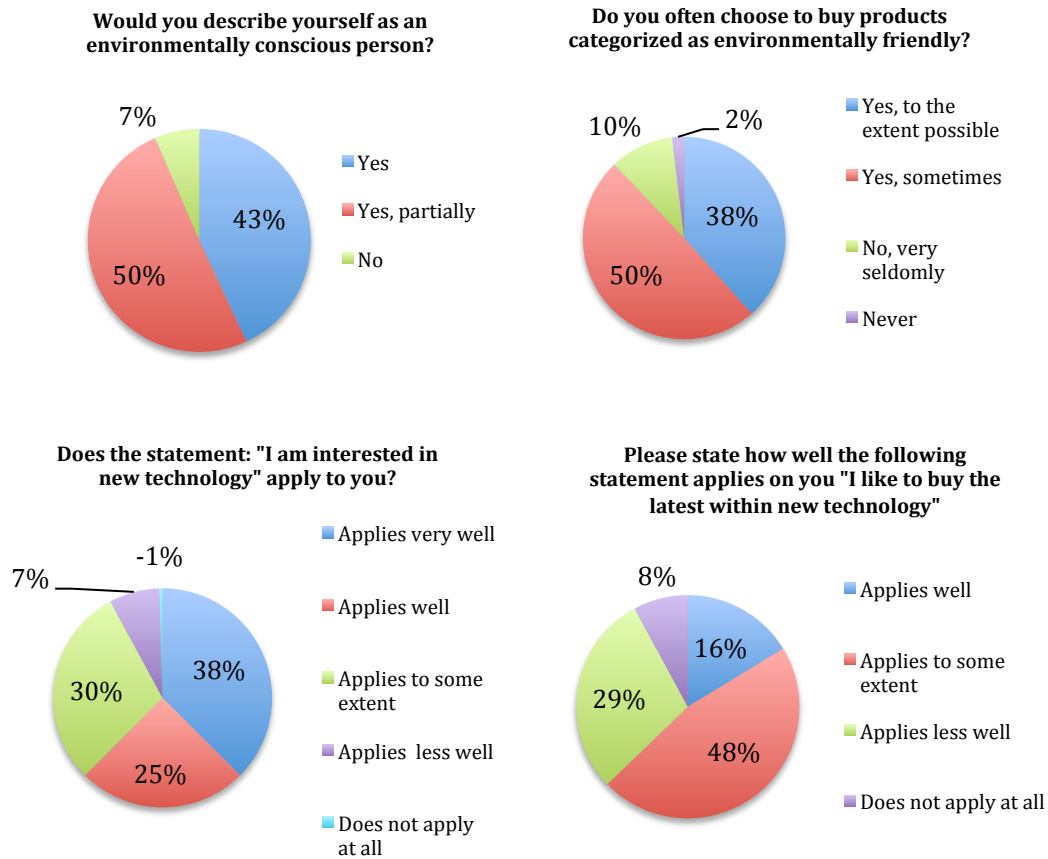
Would you describe yourself as an environmentally conscious person?

- Yes
- Yes, partially
- No

7%
50%
43%

Do you often choose to buy products categorized as environmentally friendly?

- Yes, to the extent possible
- Yes, sometimes
- No, very seldomly
- Never

10%
2%
38%
50%

Does the statement: "I am interested in new technology" apply to you?

- Applies very well
- Applies well
- Applies to some extent
- Applies less well
- Does not apply at all

7%
-1%
38%
30%
25%

Please state how well the following statement applies on you "I like to buy the latest within new technology"

- Applies well
- Applies to some extent
- Applies less well
- Does not apply at all

8%
16%
29%
48%

Figure 6.4-7 Attitudes towards environment and technology

Transportation patterns

With regards to the most important factors that the respondents take into consideration when choosing transport mode the respondents answered that it is mostly a combination of agility price and time. Most of the respondents also consider the environmental impact, but in the end it comes to the trio of agility price and time when the choice is to be made.

Regarding attitudes towards transportation alternatives the respondent group was overall very positive towards using public transportation. The majority of the respondents are positive to using public transportation, car owners and non-car owners alike. Not surprisingly, the majority of the respondents were also very pleased with how the public transportation works in Gothenburg, as roughly 80 % thinks it works at a sufficient level or better. When asked how well public transportation can fulfill the everyday transportation need 41 % answered that it completely fulfills their everyday transportation need and 45 % that it fulfills it to some extent and the remainders that it is insufficient in fulfilling their everyday transportation needs. This information is presented in figures 6.8-10.

What is your attitude towards using Public Transportation

- Gladly use
- Use as a complement
- Avoid usage to the extent possible
- Refrain from using completely

13%
1%
19%
67%
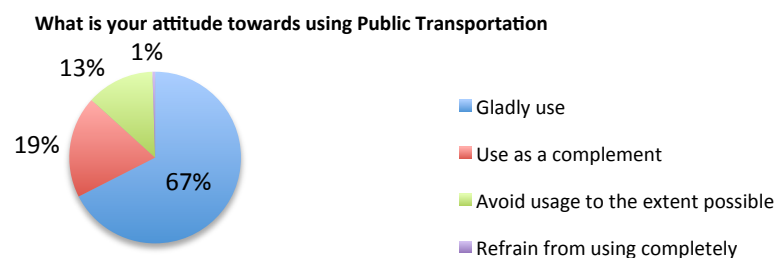
Figure 6.8 Attitude towards using public transportation
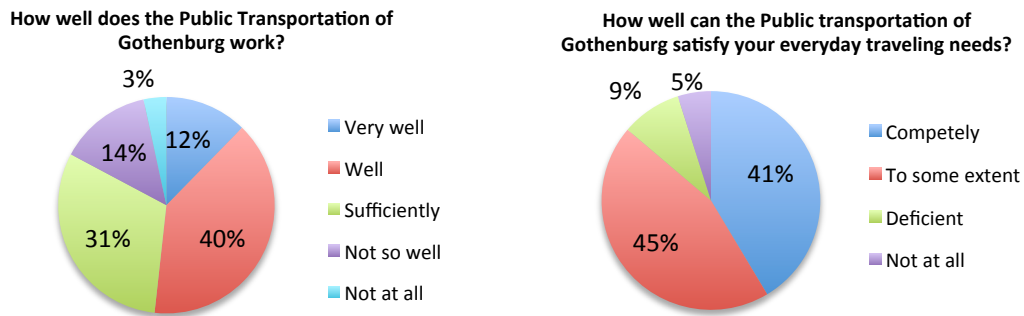
Figure 6.9-10 Perception and fulfillment ratio of public transportation

The respondents were also asked to give information about how often they use different types of transportation alternatives. From that question the answers showed that public transportation is the transportation alternative that is used most often by far, figure 6.11. Car owners use public transportation to a lesser extent compared to those who do not own a car. A car is being used on a weekly or daily basis by 43 % of the respondents, however, separating car owners from those who does not own a car shows that over 90 % of the car owners use car on a weekly or daily basis whereas those who do not own a car uses car on a monthly (33 %) or a yearly basis (35 %). When it comes to bicycle, it is used on a weekly or daily basis by 40 % of the respondents. However, the use of bicycles is highly seasonal and roughly 15 % of the respondents use bicycle during spring/summer. The answers to this question also shows that the use of taxi, rental car or carsharing cars is much more sporadic. Even though rental cars are used more often over the course of a year the respondents that have answered that they use carsharing cars use these more regularly. This is probably due to the fact that most carsharing services have a monthly fee and thus those users have decided it to be worth it because their needs of a shared vehicle is so regular in its nature.
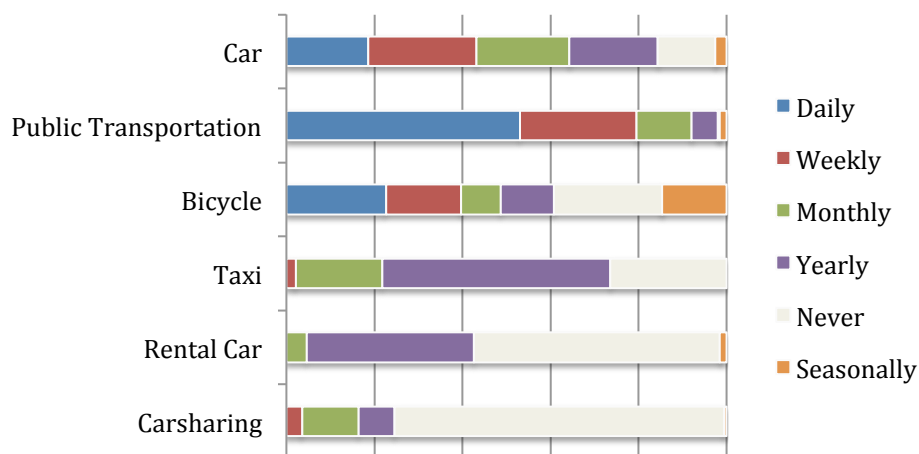
Figure 6.11 Usage of different modes of transportation

Car ownership

Furthermore, regarding car ownership, the respondents were asked a few questions that bring light into how car ownership looks in the population. The questionnaire showed that 42 % of the respondents were car owners and only a few households owned more than one car (16 %). Isolating members of Wallenstam Drive from non-members it is clear that car ownership is only half as common among members. Looking at the cars that were owned, the majority of the respondents owned a green car. The reasons for owning a car might differ from person to person. However, as presented in figure 6.12, the main reasons for owning a car within this population is that it provides freedom, that it is a necessity, that it is a habit that is hard to get rid of or that it is a company car. Factors such as wanting a special brand or that the car is seen as a symbol of status was not deemed important from the respondents and received a low rating. When asked why they believe that others own a car the answers differed in the way that the factors of wanting a special brand, habit and status had increased. The purpose for using cars corresponded relatively well to the reason for ownership. On this question, the answers were spread relatively evenly between the respondents. 30 % said that they mainly used it for leisure, around 25 % for everyday chores and approximately 23 % used it for travels to and within their work. This car usage pattern of the respondents results in them driving a yearly distance of 0-15000 km, representing around 70 % of the respondents.
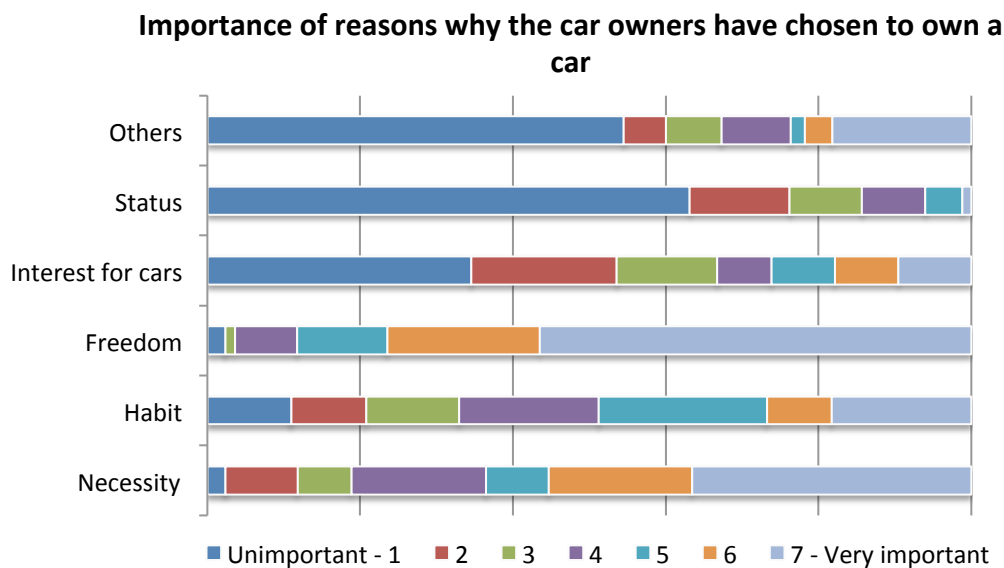
Figure 6.12 Reasons for car ownership

The believed importance of reasons influencing others to own a car
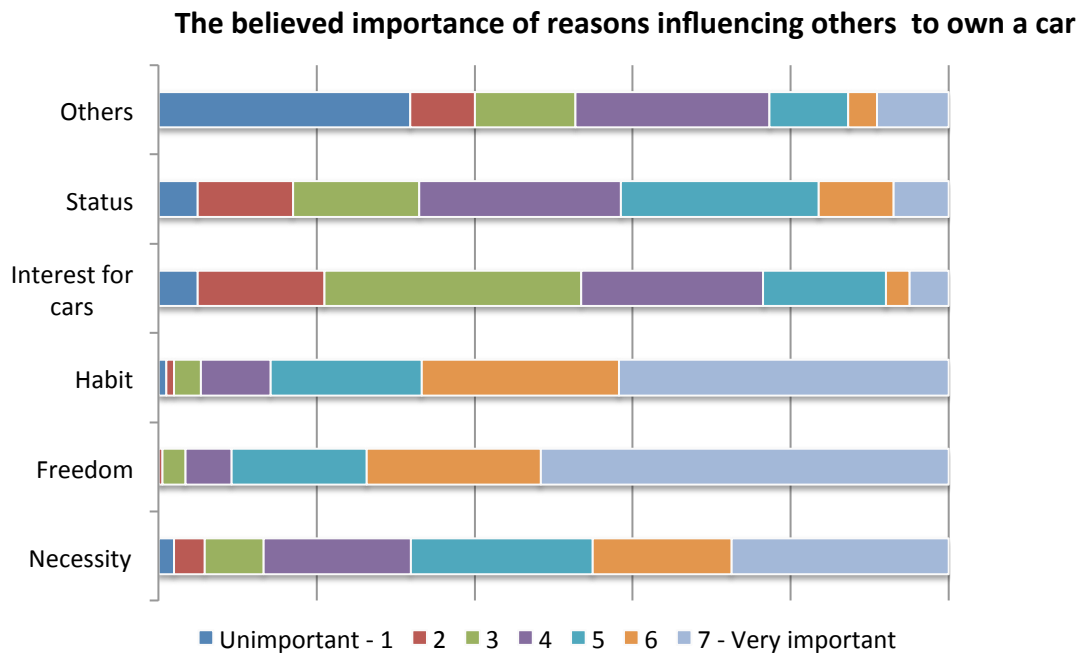
Figure 6.13 Others' reasons for owning a car

In conjunction to car ownership questions, the respondents were asked some questions about the costs of car ownership. As presented in figure 6.14, the majority of the respondents believe that they have a good and clear knowledge of what the costs are for owning their car. This percentage shifted quite drastically when the respondents were to answer whether others had good knowledge of the costs of owning a car. In this case there were only 30 % that believed that others had a good and clear view of the costs of owning a car and around 60 % believed that others only had some knowledge within the area as seen in figure 6.15.
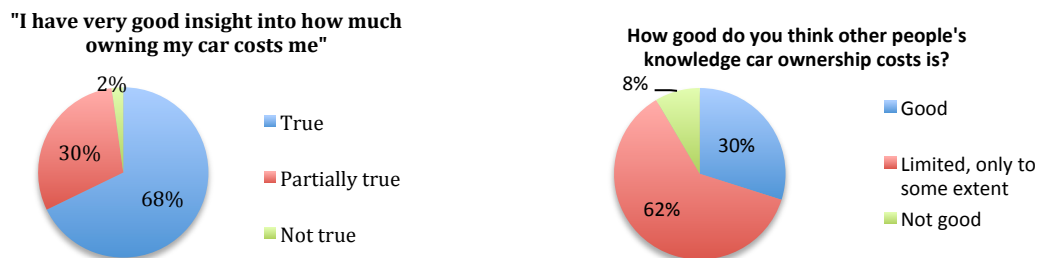
Figure 6.14-15 Level of own and others knowledge of car ownership costs

Attitudes and knowledge about Wallenstam Drive

Of all the respondents 35 % are members of Wallenstam Drive. The respondents were also asked whether they were or had been members of other carsharing services just to get an understanding of their prior knowledge to the concept and 86 % were not members of any other carsharing service. Furthermore, the respondents were asked if they use carsharing services in their line of work and this was not the case for 79 % of the respondents. The respondents were also asked about the distance from their homes to the nearest carsharing pickup/return station, and as can be seen in figure 6.16 over half of them did not know how far from the station they lived.
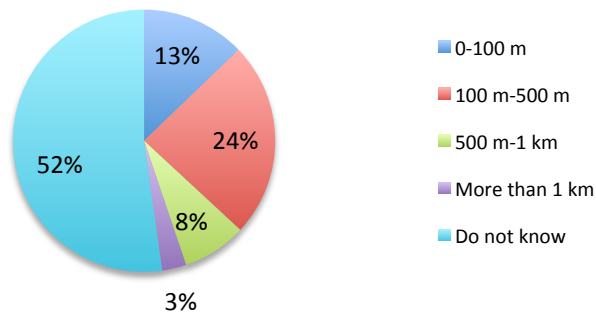
Figure 6.16 Distance to respondents' closest pickup/return station

Among the respondents that are not members of Wallenstam Drive, 60 % had knowledge about the service. This knowledge was mainly obtained from pamphlets distributed by Wallenstam Drive. Furthermore, almost half of the ones that had no previous knowledge of the service expressed that they were interested in using the service after receiving information about it. Another aspect regarding the information concerning Wallenstam Drive was that 100 % of the respondents did not know that it was possible to connect their public transportation card to the service. Looking only at the members of Wallenstam Drive, one can see that the usage is rather sporadic. The service is mainly used on a monthly, quarterly or yearly basis. The sporadic usage has a relatively even spread between the four categories of leisure, shopping and transport of large or numerous objects, daily chores and hobbies, which corresponds to the purpose the respondents stated for choosing to use Wallenstam Drive (figure 6.17). Among the users there is a consensus that the service is working very well.

The respondents that had previously stated that they are users of Wallenstam Drive or that they are planning to start using the service were asked what the main reasons were for choosing to use the service. This was to discern the motivational factors of the ones actually making the commitment of using the service. The respondents were asked to rate different motivational factors depending on how much those contributed to the decision of using Wallenstam Drive. The diagram in figure 6.17 shows how the respondents rated the different motivational factors. As shown the most important factors was that the users could rid themselves of the costs associated with car ownership, this was considered most important for both current and future users. Ridding oneself of fixed costs related to car ownership is tightly connected to another of the most important factors which is that Wallenstam Drive suits the transportation needs of the respondents. They are only in need of a car occasionally and in between those occasions it does not seem logic to own a car with the costs and chores that car ownership brings. Curiosity also seems to be a big motivational factor for using Wallenstam Drive. Following curiosity was the fact that it is an environmentally friendly alternative to car ownership, especially appreciated by the future users. Finally, following the reason that it is an environmentally friendly alternative to car ownership was the fact that the service harmonizes with the respondents' personal values.

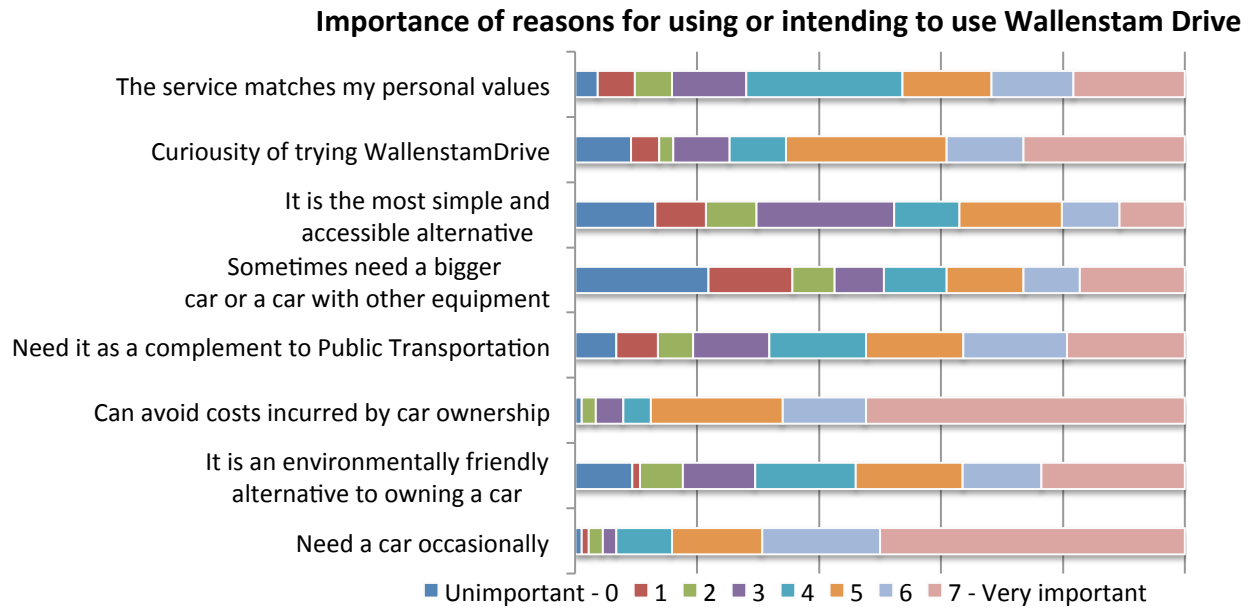**Importance of reasons for using or intending to use Wallenstam Drive**

Figure 6.17 Reasons for using or intending to use Wallenstam Drive

Moving on to the respondents that have chosen not to use the service, it is interesting to see what their motivating factors are for that decision. The distribution of the responses can be seen in figure 6.18. The main reason for choosing not to use Wallenstam Drive was found to be that it does not fit the respondents' transportation needs. The car owners put even more emphasis on the need for flexibility in their mode of transportation. In addition there are a lot of respondents that have a company car or are in need of a car in their work and hence feel that the service would be redundant. There were a number of respondents that believe that the service would be to complicated for them to use, regarding both booking, collection of car and usage such as refueling. Finally some respondents think that the one time fee for the rentals is too high and that they could not use the service because of the lack of cars allowing animals. The price-factor was more evident when only looking at the non-car owners. When asked what could make the respondents change their mind about the service there were four aspects that stood out as most important, namely that they would like to have more parkings for collection and returning of the cars, more cars to secure availability, lowered price and that the usability of the service would be increased by for example a dedicated smartphone application, see figure 6.19.

Importance of reasons for choosing not to use Wallenstam Drive

I perceive reservations or usage
of the service to be complex

The service is not comprehensive enough
in terms of transportation alternatives

It does not fit my transportation needs

It is to far to the closest pickup/return station

I want to choose which car brand I drive

It does not cover my need of
car type (4WD or 7-seater)

I want to know with whom I am sharing a vehicle

Lacking availability of cars

More expensive than owning a car

I cannot afford to use the service

■ Unimportant - 0 ■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 - Very important

Figure 6.18 Reasons for choosing not to use Wallenstam Drive

How much given changes would influence non-users to consider using Wallenstam Drive

Dedicated smartphone app

Increase user friendliness

Extend comprehesiveness of the service
with more transport alternatives

Increased number of pickup/return stations

Larger variety in terms of car models

Larger variety in terms of car brands

Restricted sizes of groups that can use a vehicle
(For example one building or one floor)

More cars to secure availability

Lowered price

■ Unimportant - 0 ■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 - Very important

Figure 6.19 Influence on non-users to consider using Wallenstam Drive

54

Perceived problems and requested changes

The users were also asked to provide input into which areas that they found most problematic when using the service. What became clear is that the users are predominantly very satisfied with the service as mentioned previously and do not have that many complaints. In figure 6.20, one can see that among the pre-given alternatives none of them is assigned a high rating in terms of how problematic they are perceived to be. However, looking at the free text answers shows that the complaints are more consolidated around one area. These make it clear that the respondents are experiencing a lack of quality and that the information provided on the web portal is insufficient. Furthermore the free text answers provides information that the searchability of the web portal is to low and that they due to this tend to use the web portal or smart phone application of Sunfleet instead as its searchability is superior. The free-text answers also gave some input regarding the vehicles. Some users expressed that they found the cars with child seats to be too few and too expensive. However all in all, most pre given alternatives to problem areas were given low points in terms of how problematic they were perceived to be.
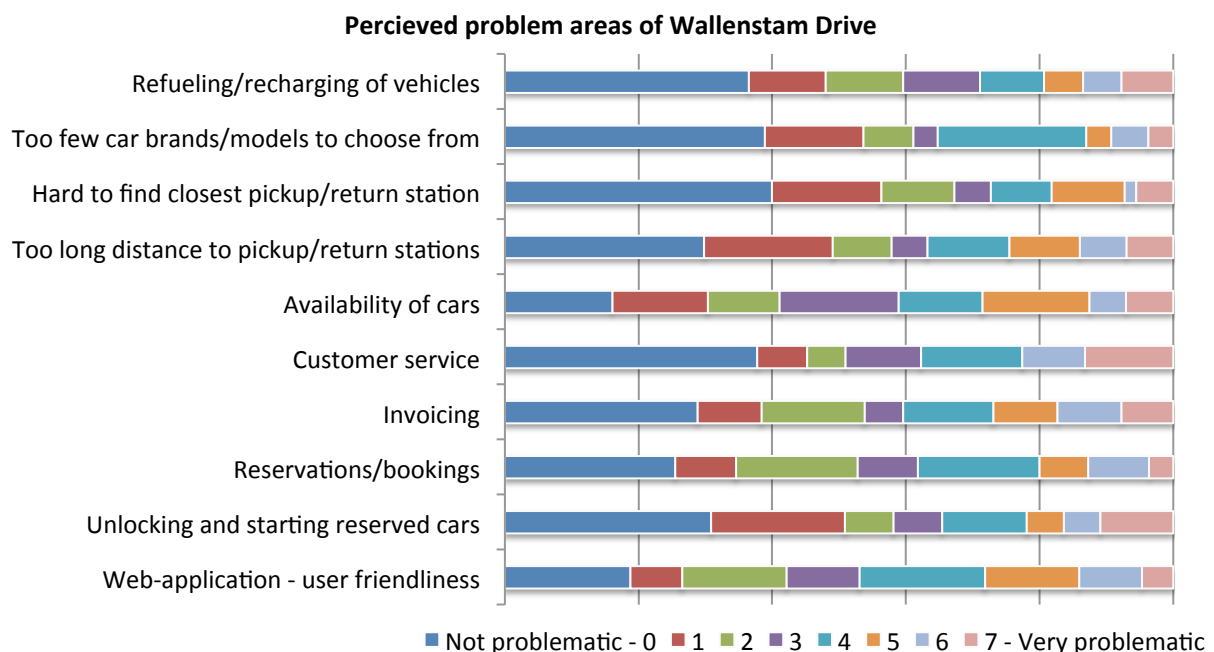
Figure 6.20 Perceived problem areas of Wallenstam Drive

To finish the questionnaire the respondents was asked what change or improvement that they would like to see implemented in the service. As mentioned previously, one big problem area that was found from the answers was that there are problems with the information on and function of the web portal. Several respondents expressed that they would like to have better information on how it actually works and that they would like to see more alternatives to their search in order to make it more specific. Many users also found the web portal to be unstable when using it. Which was also one of the reasons why users tend to use the Sunfleet web- or smartphone application. In relation to this, it was found that many respondents would like to see a dedicated smartphone application for Wallenstam Drive. Furthermore, it was expressed by some respondents that they would like to be able to calculate an estimated final price by adding their estimated distance in the search. Additional changes that the users of Wallenstam Drive would like to see were smaller and cheaper cars, more cars allowing animals, more cars fitted with child safety seats and that the pickup/return stations were more spread out. The

final factor concerns the billing. The respondents mentioned that they would like to see an option for getting the bill for Wallenstam Drive on autogiro in order to get rid of the bill sent by e-mail.

7. ANALYSIS AND RESULTS

In this chapter the analysis performed in order to fulfill the purpose of this study will be presented together with the results. The chapter consists of three parts: The empirical analysis, the remodeling of the business model and the application of the remodeled business model to Wallenstam Drive. Initially the empirical findings from the questionnaire are analyzed in order to gain a deeper understanding of the customer needs and demands and their implications. The results of this first part are needed for the following parts of the analysis. These helped in discerning the contextual factors needed for generating a remodeled business model for mobility services, which is the second part of the analysis. The third part describes how the remodeled business model is applied to Wallenstam Drive and presents the current business model and constituent elements of the service. The third part of the analysis is concluded with the description of a future state of the business model of Wallenstam Drive, in which the current state business model has been developed in coherence with the findings from the first part of the analysis.

7.1 Empirical analysis

This section contains an analysis of the results of the questionnaire presented in chapter 6. Furthermore the analysis will generate implications of these results which in turn will affect the future state of the business model of Wallenstam Drive.

Population

When analyzing the population that responded to the questionnaire one can see that they are relatively young. As can be seen in figure 6.1, the bulk of the respondents are between 18 and 40 years old, to be compared with the age span of 26-49 of the typical carsharing user in Europe identified in the Momo (2010) study. Also, the households were found to be comparable with European carsharing users in terms of living situation as the respondents mainly lived in 1 or 2 person households which also was the average household size in the Momo (2010) study. Furthermore it could be ascertained that the majority of the respondents have a quite high interest in technology and also that they are environmentally aware. The environmental awareness was reflected in their daily purchases but also in how they choose their mode of transport. Interestingly, this data applies for the entire population. This means that it is not only the current members of Wallenstam Drive that are environmentally conscious but also the non-members. Similarly this applies for the interest for new technology as well, even though in that case the members of Wallenstam Drive display a somewhat higher interest for the latest technology. The interesting part is that when comparing these characteristics of the population with the characteristics of the typical users of some mobility services presented in chapter 2 a lot of similarities can be found. The average age of the Wallenstam Drive members only differed half a year from the average age of the UbiGo users (38 and 38.5 respectively) (Sochor et al., 2014). Also, similar to both BeMobility users and UbiGo users the entire population is interested in new technology and is environmentally aware (Ruhrort et al., 2014; Sochor et al., 2014). Hence the population can be seen as modern and as the persona is very similar to the persona defined in the UbiGo and BeMobility studies this persona is susceptible for mobility services (Sochor et al., 2014; Ruhrort et al., 2014), indicating that there is a potential for an increased number of users in the existing population.

Transportation patterns

In regards to the respondents travel behavior, it was shown that public transportation constitutes a large part of the travels for a majority of the respondents, if not daily at least on a weekly basis. This can be compared to the findings of Momo (2010) that indicated that public transportation is used far more regularly by carsharing users in Europe compared to the

average citizen. Among the respondents, public transportation is used less by the car owners which is understandable. However among the non-car owners the usage of public transportation is very similar between members and non-members of Wallenstam Drive. Another interesting point is that the perception of public transportation and how well it works is overall very good, even among the car owners that are less inclined to use it. According to the survey, price, time and flexibility are more prominent factors with higher influence than environmental factor when it comes to the choice of transportation alternative. This is similar to the findings of Sochor et al. (2014) who found that even though the environmental factor is important, it is not a primary factor and cannot solely affect the choice of transportation alternative. The respondents that are current members of Wallenstam Drive value price the highest when choosing modes of transportation and the respondents that are not members put the highest value on flexibility and time. These motivational factors regarding choice of transportation mode could also be seen in the respondents' seasonal use of bicycle, where a relatively widespread usage could be found.

Car ownership

Car ownership among the respondents puts another dimension to the answers. When comparing the answers on different questions in the light of whether the respondents own their own car or not it gives a more nuanced picture of some issues. For example, the fundamental question of whether the respondent is a member of Wallenstam Drive or not. Cross-referencing the answers to that question with the question on car ownership shows that it is far less common to own a car among the Wallenstam Drive members, a characteristic that was also found by Momo (2010). However, even though the shares of car owners vs. non-car owners are more evenly distributed (almost 50/50) among the non-members there are still a lot of potential new members that do not own a car. This constitutes a large group of potential users to target. Regarding the knowledge of the costs concerning car ownership they are similar when looking at both members and non-members of Wallenstam Drive as well as car owners and non-car owners. As seen in figures 6.14-15 it is clear that the respondents believe that their own knowledge is good whereas others knowledge is lower. Hence it could be argued that the population's knowledge might not be as good as they believe it to be since they are more likely to be honest talking about others knowledge than their own. What can be seen as problematic for Wallenstam Drive when trying to attract new customers from the part of the population that currently are car owners concerns their purpose of owning a car. This is because the main purposes that were found for owning a car were the freedom that it brings, that it is a necessity, that it is a habit or that it were a company car. This is related to the emotional attachment to the car, which also is determined to be one of the toughest barriers to overcome in the progress of mobility services (Momo, 2010).

Attitudes and knowledge about Wallenstam Drive

The input from the respondents regarding the reasons for why they already use or are planning to use Wallenstam Drive provides some valuable insight into what people perceive as attractive with the service. An interesting finding was that it differed between the current users and the ones that had stated that they would like to use the service in the future. The current users choose the service mainly because they saw it as the most convenient way to satisfy their sporadic need of a car which also can be found as one of the most important reasons for joining a carsharing scheme in Europe (Momo, 2010). The non-users also had a sporadic need for a car but they seemed to be more attractive to the fact that Wallenstam Drive could satisfy this need in a more environmentally friendly way. This can be compared to the study performed on UbiGo which also found that non-users valued the environmental impact higher than the users (Sochor et al., 2014). Furthermore one of the most important factors, which also are related to the sporadic need of a car was that Wallenstam Drive

provides the opportunity to get rid of fixed costs related to owning a car. This was a primary reason for both members and non-members.

When analyzing the data from the respondents that had chosen not to use the service, two main reasons were found. One reason mainly regards the car owners specifically and is related to the purpose of owning a car in the first place. Namely that they are reliant on their car and Wallenstam Drive does not fit their transportation needs. This adds to the picture of car owners having a strong relation to the flexibility and freedom that a owning a car and their negative attitude towards substitutes. This may however to some degree be connected to lack of understanding. As concluded in the Momo (2010) study, the individuals that show greatest resistance and hesitance against the performance of carsharing (or mobility services) are the ones that have never tried it before. Those individuals express concerns about the availability of cars and reliability of reservation systems. Thusly, lack of understanding may be a factor that further increases the perception of mobility services not being able to satisfy a potential user's transportation needs. A reason that mainly regards the non-car owners is that it is seen as too expensive and a service that they cannot afford. When asked the question of what could change the non-members opinion into considering using the service the main factors that were found were that they would like more pick up/return stations and an increased usability of the service regarding both the web portal and the usage itself that is unlocking/locking, fueling etc. However as 52 % of the respondents did not know where the closest pickup/return station was located, it is hard to know if the respondents know were the closest pickup/return stations is and how many there are or if it is just a preconception that they are too few. Nevertheless, this could be argued to be related to the previous issues regarding the deficient information regarding the service, which is further strengthened by the fact that only 60 % of the non-members had knowledge about the service. Deficient information also hampers the increase of users of Wallenstam Drive simply because a lot of the potential users do not know about the service. As mentioned previously, half of the ones that did not know about Wallenstam Drive became curious on trying it once they had received information about it.

Perceived problems and requested changes

Whereas the information on the reasons why the people have chosen not to use Wallenstam Drive was found to in many ways be connected to lack of understanding the information regarding perceived problem areas is more direct. These are responses that come from people actually having used the service and the problems they perceived have thus occurred, more or less frequently. As mentioned in the results from the questionnaire the ones actually using the service are satisfied with the service overall. The few concrete problems that are addressed concern the web portal, both in terms of searching vehicles and fulfilling reservations. This should not be overlooked since one of the major trends in the future of mobility services is largely revolved around modern technology and packaging the service in an easily accessible package. Furthermore, Momo (2010) also raises modern technology as a success factor which argues that these complaints need to be carefully evaluated.

Furthermore, technology was the main area that both users and non-users would like to see changes within. As mentioned previously many respondents would like to see a smartphone application. What further strengthens this argument is that 10 % explicitly stated that they would like to see an application in a free text question which gives no external influence affecting their response. Moreover, Leveque (2013) discuss that mobility services are becoming more technology centered, also smartphone applications are used by mobility services to a large extent (over 50 %) of the ones investigated in the empirical framework.

7.1.1 Implications of empirical results

The findings presented in the previous section bring implications for Wallenstam Drive. These implications indicate areas that according to the questionnaire need to be addressed. At first, the most concrete problem areas will be presented followed by features that the respondents explicitly have requested. Thereafter, the need for improved information will be treated and finally suggestions on extensions of the service that could be reached through collaborations and other measures.

The problem areas provide useful input into the development and improvement of Wallenstam Drive. As mentioned previously, the service received good rating when the respondents were asked to rate the service but there were however some issues that seem to be recurring in many opinions. This mainly concerns the web portal and the way that it works. From free text answers it becomes evident that the problem area is two-folded. One part of the problem with the web portal is bad performance and the other part concerns the content and design. The users request more information and the possibility to perform more detailed searches. Thus, the web portal is in need of a work over both in terms of performance but also content and design. To meet the user's requests of increased searchability it would be useful to integrate more search parameters and criteria when searching cars to reserve.

The analysis of the empirics regarding what the customers want boiled down to two major changes. They are both of technological nature which is not that surprising as this is an area that has proven problematic for both current members of the service and people not yet members. A change that the respondents would like to see performed is a modification in the web portal that would implicate a search interface that is more sophisticated and in which it is possible to calculate the final price in a more exact way. This change stems from the repeated wishes of being able to estimate a final cost based on the estimated driving distance. The other implication from the empirical analysis regarding what changes that the respondents would like is the introduction of a smartphone application. As described in chapter 6, one can clearly see a strong demand of a smartphone application and this is an area that should be seriously considered in the future development of Wallenstam Drive.

Much of the analysis of the results of the questionnaire indicates that there is a lack of information. This lack of information concerns several areas and have implications within three major areas. The first being that the customers and potential customers are not reached by the information provided, which indicates that the marketing needs to be more comprehensive and clear. Secondly that there are a lot of prejudices around the mobility services and carsharing, concerning the areas of availability and reliability, that it is expensive and that there are too few pickup/return stations. Hence Wallenstam Drive needs to make sure that the information provided clearly refutes these preconceptions. Finally, the information that is used for marketing is not fully aligned with the customer needs and values. Both current and future users find the possibility to rid themselves of costs related to car ownership to be the most important reason for using Wallenstam Drive, which means that marketing should focus on this possibility. Additionally, since the factors important when choosing mode of transportation was shown to be flexibility, efficiency, price and the environmental factor, these areas should be highlighted further when marketing the service as well.

As presented in the results of the questionnaire both car owners and non-car owners use public transport in a relatively high extent and have a positive attitude towards it. Also concerning the respondents traveling behavior is that bicycle is used quite often and especially during the summer season. Furthermore, looking at the trends presented in section 2.8 one can see that there are a number of mobility service companies that tend to move towards creating networks of companies supplying the customers with different services,

hence creating a form of one-stop-shopping for the customers. Based upon this argumentation Wallenstam Drive should investigate the possibilities of introducing new actors and thus new services into their network.

7.2 Remodeling the business model

The novelty of mobility services calls for the development of a business model concept adapted to the environment of this industry. The conceptual model, presented in section 4.4, has incorporated the most prominent findings of the theoretical framework. However as the model shows, the contextual factors of the business model also needs to be assessed. This stems from the fact that some authors argue that conceptual adaptations are always needed and also that the numerous publications on business models stem from different industries and are thus not generic in their nature (Fielt, 2014; Osterwalder et al., 2010; Shafer et al., 2005; Mason & Spring, 2011; Teece, 2010). Creating a remodeled business model hence requires an analysis of contextual factors of the environment.

In this study, the contextual factors stem from two sources, the mobility industry in itself and Wallenstam Drive. A large part of the factors to consider from the mobility service industry could be collected from table 4.1 that summarized the different mobility services described in chapter 2. From that information it could be found that the different mobility services are all newly established (the majority was established within the last ten years) indicating that it is a very innovative business, still in its bud. The different mobility services also target different customer segments and display a variety of value propositions (Moveabout[2], 2015). This may even include offering value propositions that try to satisfy needs that have not been explicitly articulated by the customers. From this it is clear that there are numerous ways of setting up a mobility service. Furthermore different mobility services are marketed by different constellations of actors, varying from smaller groups (Alphabet[1], 2015) to large networks of actors (Hildermeier & Villareal, 2014). Some further important aspects were raised from the descriptions of barriers and trends for carsharing (Momo, 2010). These indicated that regulations and legislations have a great influence on the mobility service industry and therefore have implications on the context.

Given the uniqueness of Wallenstam Drive there are some contextual factors that are specific for this case. Therefore there are some contextual factors that revolve around the service of Wallenstam Drive itself that needs to be analyzed. Upon review the description of Wallenstam Drive yields some diversifying aspects. For example, the customers have some interesting characteristics. One being that the customers of Wallenstam Drive consist of a finite group. The service is only offered to Wallenstam residents and corporate tenants and their employees. This also means that Wallenstam Drive targets different customer segments. Another distinguishing factor for Wallenstam Drive is that it is a product of the efforts of a network of actors coming together from different industries (real estate company, carsharing provider, rental car provider), which implies that the network aspect is important to consider. The competitive situation is also very interesting in the case of Wallenstam Drive. Since Wallenstam Drive in many ways operates in an isolated market there are no real threats from competitors, at least not from the perspective of Wallenstam Drive. The different actors part of the Wallenstam Drive network may experience some competition but that is not connected to Wallenstam Drive. Furthermore, if new similar services were to arise it would not be considered as something negative, since one of the major reasons for this collaboration is to influence politicians and legislators to reduce the requirements for parking spaces when erecting new buildings (at least from the perspective of Wallenstam). More similar services would only serve to aid in this quest.

These two sources of contextual factors were compared and reviewed to determine which important implications from the context that needed to influence the conceptual model. When comparing factors from both sources of context it was found that these bring similar implications. These similarities are visualized by the numbers in the illustration of contextual factors in figure 7.1.
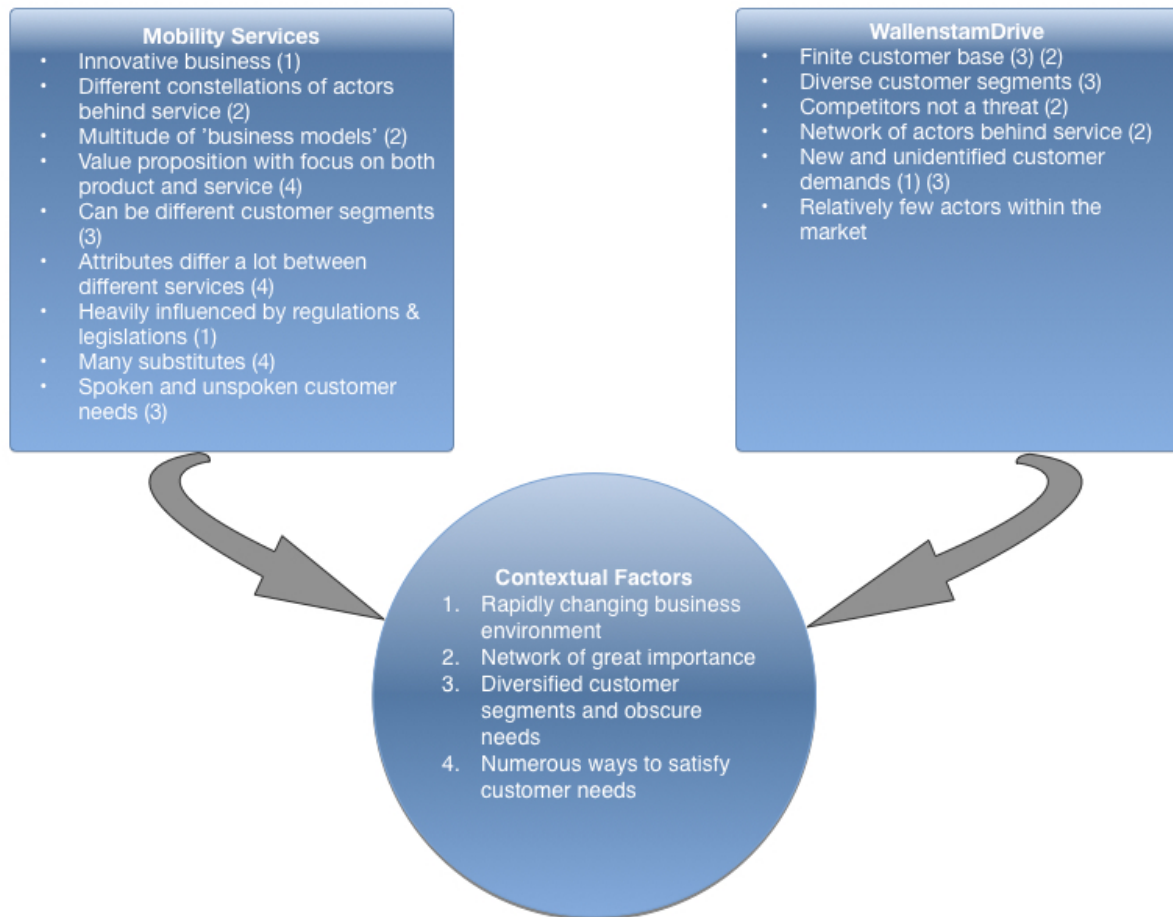
Mobility Services
- Innovative business (1)
- Different constellations of actors behind service (2)
- Multitude of 'business models' (2)
- Value proposition with focus on both product and service (4)
- Can be different customer segments (3)
- Attributes differ a lot between different services (4)
- Heavily influenced by regulations & legislations (1)
- Many substitutes (4)
- Spoken and unspoken customer needs (3)

WallenstamDrive
- Finite customer base (3) (2)
- Diverse customer segments (3)
- Competitors not a threat (2)
- Network of actors behind service (2)
- New and unidentified customer demands (1) (3)
- Relatively few actors within the market

Contextual Factors
1. Rapidly changing business environment
2. Network of great importance
3. Diversified customer segments and obscure needs
4. Numerous ways to satisfy customer needs

Figure 7.1 Contextual factors

The implications that could be determined from the two sources of contextual factors was that the environment of mobility services is rapidly changing, which mainly is a result of the industry being as new as it is, and thus the remodeled business model needs to be able to cope with the need for continuous changes. Furthermore, what could be ascertained was that mobility services in numerous cases was a result of cooperation between two or more companies meaning that the network needs to have a vital role in the remodeled business model. This is further strengthened by the clear network construction of actors that creates Wallenstam Drive. In addition, many mobility services, Wallenstam Drive included, are aimed at satisfying the needs of diversified customer segments, which hence is a factor that the remodeled business models needs to be able to handle. Finally it could be seen that there are numerous ways in which the need for transportation can be satisfied. This means that the remodeled business model needs to put emphasis on identifying customer needs which in turn puts even more emphasis on the ability to adapt to changing and new customer needs.

Based on the aspects included in figure 7.1. The remodeled business model for this study could be developed. As can be seen in figure 7.2 the network has been given a special place in the remodeled business model. The network encircles the entire business model and this is to illustrate that all things related to the business model take place within a network. The

network contains customers, different types of suppliers and key partnerships and it is within the network that key activities and resources not internally owned can be accessed. Moreover, Wallenstam Drive is itself the result of a network and many mobility services rely on networks in order to make their offerings work which is also why the network needs to be highlighted in the business model. Another distinctive aspect of this remodeled business model is the emphasis on the interconnectedness between the elements, similar to the argumentation of Mason & Spring (2011), which encompass that the elements strongly affect each other and that changes in one element often lead to changes in another. Hence the remodeled business model is developed to capture the dynamic nature of business models as expressed by Teece (2010). The interconnectivity and dynamic nature is illustrated by the lines and arrows in the visualization.

The remodeled business model is built upon a similar logic as several other business models. Namely that the business model should cover the dimensions of business regarding identifying customers and what they need, satisfying this need, what is needed to accomplish this and finally how to perform this while making a profit (Fielt, 2014). The dimension of identifying the customer needs is covered by the main element 'customer'. Within this element aspects such as customer relationships and what customer segments that are targeted can be found. How to satisfy the customer needs is captured in the element of 'value proposition'. This entails benefits to the customer and also a breakdown of the value proposition into access, activities and artifacts. It also covers the factors of branding and differentiation which could enhance the value perceived by the customer. This model distinguishes between the abstract notion of value to the customer and the creation of this value. Therefore, the next main element is named 'infrastructure of value creation' and this was created with the purpose of collecting the most important sub elements that are needed for value creation. Part of this infrastructure are the key activities and key resources needed in the value creation but also the channels which makes it possible to deliver and receive flows of funds, product/services or information. Technology is also a sub-element that is considered part of the infrastructure of value creation. Technology in turn consists of product, process, core and infrastructure technology. The final element 'capture value' is aimed at making sure that the business model is built in such a way that it brings profit to the enterprise. Therefore it comprises the sub elements that cover the areas of how to charge the customers in the most suitable way and what cost structure that is most suitable.
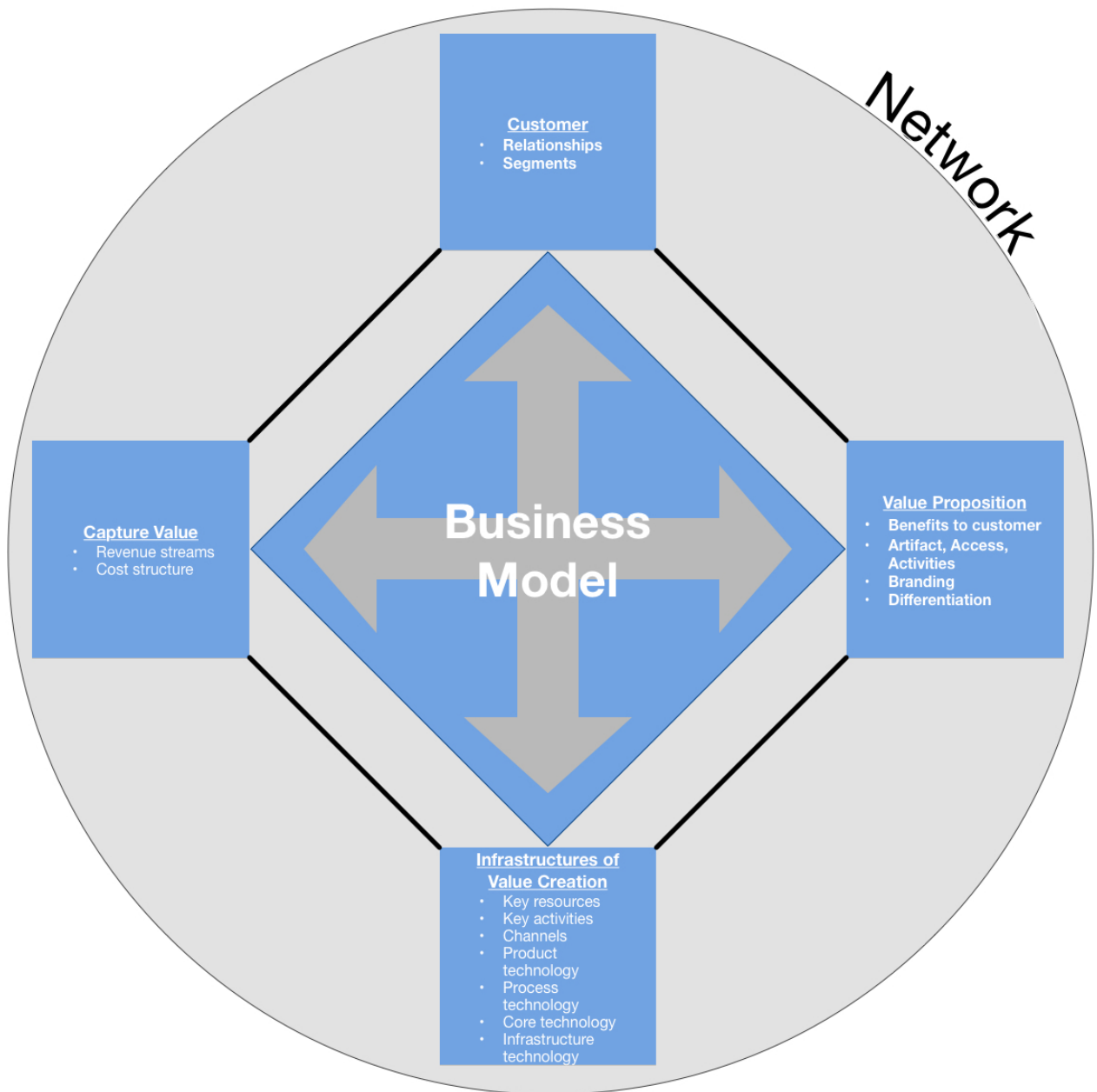
Figure 7.2 Remodeled business model for mobility services

7.3 Current state

In order to reach the purpose of *investigating how the usage of Wallenstam Drive can be increased by innovating the business model* the current business model needs to be mapped to be able to perform adjustments according to the findings presented in the study. The mapping will be performed by applying the business model developed in section 7.2 in conjunction with the empirical data obtained from the questionnaire.

Customer

In the case of Wallenstam Drive, the intention is to target two large segments with the service. These are private residents of Wallenstam as well as business customers renting facilities in Wallenstam properties. It is thus a finite group and the common denominator for all customers is that they either live or work in a Wallenstam property. As of march 31st 2015,

Wallenstam Drive had almost no business customers at all. Wallenstam Drive has however not created a diversified offering between the two customer groups but rather use the same segment strategy for both customer segments. Nevertheless, private and business customers are very different. The usage of the service can only be assumed to be different as well (since no empirical data from business customers could be obtained).

In terms of customer relationships, these are of the automated self-service kind since the relationships are mostly just ongoing without the personal interaction between different customers and any of the actors in Wallenstam Drive. Personal interactions sometimes occur over the phone in conjunction with customer service activities.

Value proposition

Since Wallenstam Drive is a mobility service the benefit it provides to the customer concerns the area of transport. By using the service the customer stands to gain the benefit of a car-based transportation based on individual needs. As a result of the current customer segment strategy of Wallenstam Drive, the value proposition is homogeneous i.e. it is the same offering regardless of customer. The value offering is provided to the customers through a network of cars and pickup/return stations which enables the provision of the service. The value offering is in other words access-based since value is brought to the customer through it getting access to transportation alternatives. The value offering is however supported by activities related to the upkeep of the car fleet and the web portal. Regarding the way that Wallenstam Drive differentiates itself from similar services is through its approach of being centered on the need of the customer and not the specific features of the cars. Looking at branding, it is a factor that is hard to build in less than a year and the topic has not been addressed by the involved actors.

Infrastructure of value creation

The key resources are the resources that are called upon when generating value for the customers. A normal categorization of key resources is to divide them into financial, intellectual, human and physical (Osterwalder et al., 2010). In the case of Wallenstam Drive the financial resources are diffuse and hard to map since the different actors in the network possess their own financial resources and it is hard to discern how these resources are applied in the Wallenstam Drive scheme. The intellectual resources are also embedded in each individual actor. Examples of these intellectual resources are the relationship between Volvo Cars and Sunfleet and the brands of Hertz, Sunfleet and Wallenstam. The human resources mainly concern the personal knowledge that stems from the core competencies from the different companies (construction, communication and carsharing knowledge). Finally, the physical resources are the more hands on resources like the cars provided by Sunfleet and Hertz as well as the network of pickup/return stations and the web portal.

Due to the nature of the service, the key activities do not concern the production of the service as much as the upkeep of the service. That is, activities such as updating the car portfolio and cleaning the cars. These are activities performed in the inner network as this is conducted by Sunfleet. The maintenance and development of the web portal and the process of keeping it functional and modern is also of vital importance as the web portal is a crucial part in the value proposition. The operational upkeep of the web portal is however performed on contract by parties in the outer network not involved in Wallenstam Drive. Also, the novelty of the service fosters the need of a lot of problem solving since it is important to make the best possible adjustments to the pilot project. Finally, one very important activity is marketing and the spreading of information about the service which is vital for the increase of usage.

Another important part of the infrastructure in the value creation is the channels through which information, services and funds can flow. In the case of Wallenstam Drive, all these channels are owned thanks to the network constellation that stands behind the service. The information mainly reaches the customers through direct channels owned by Wallenstam since they possess direct ways of contacting their residents and tenants. Wallenstam's information channels are bulletin boards in staircases of their residential buildings, e-mails and letters to individual residents and the internal profile pages 'my pages'. Another large channel is the web portal itself where the reservations of cars are made. This channel is handled by Hertz and operated by a subcontractor.

Also part of the infrastructure of value creation is the technologies that Wallenstam Drive call upon when generating their value proposition. The inner network that has created Wallenstam Drive has access to the product technology since Hertz and Sunfleet own the 'products' i.e. the cars. Another extension of the product technology is the unlocking of reserved cars, which thanks to partners in the extended network can be performed with public transportation cards. Apart from the cars themselves, almost all the technologies associated with the service have to be obtained through the extended network. The core technology that mainly concerns the web portal is one example of this. The web portal is considered a core technology since it could easily be transplanted in other similar value propositions. This technology of keeping the web portal running is not something that any of the actors in the inner network possess. Instead, Hertz purchased this service from a subcontractor. As for process technology, it can be considered as the underlying technology behind the creation of the web portal. It is thus also something that is provided from the outer network. The ideas that influence the web portal are nevertheless to a high extent an internal technology. The main infrastructural technology of Wallenstam Drive, which enables the connection between the customers and the company, is the internet.

Capturing value

When mapping the way that the business model of Wallenstam Drive is developed to handle revenue and costs it is quite clear that the service is in a pilot phase as it there is no structure developed specifically for Wallenstam Drive. The revenues are obtained by the parties in the inner network which provide the car, namely Sunfleet and Hertz. The same structure is present within the cost structure, meaning that the party taking on a task is the one taking the cost for doing so. The costs are variable in terms of them being dependent on the output of the service. The revenues obtained by the members of Wallenstam Drive are one-time payments, as there is no membership fee, and occur when the customers use the service.

An illustration of the current business model of Wallenstam Drive applied to the remodeled business model framework is shown in figure 7.3.

Customer
- **Relationships**
- *Self service with customer service function*
- *No personal relationship with neither private nor business customer*
- **Segments**
- *Massmarket*

Network

Capture Value
- **Revenue streams**
- *Car providers earn revenues*
- *Transaction revenue with usage fee*
- **Cost structure**
- *Mainly variable costs*

Business Model

Value Proposition
- **Benefits to customer**
- *Car based transportation based on customer needs*
- **Artifact, Access, Activities**
- *Access based*
- *Supplemented with activities*
- **Branding**
- *Not yet developed*
- **Differentiation**
- *Based on needs rather than product*

Infrastructures of Value Creation
- **Key resources**
- *Financial: the individual actors' financial resources*
- *Intellectual: Sunfleet-Volvo partnership, all actors' brands*
- *Human: Core competencies of involved actors*
- *Physical: Cars and pickup/return stations, web portal*
- **Key activities**
- *Development and maintenance of web portal*
- *Problem solving*
- *Marketing*
- *Planning*
- **Channels**
- *Own, direct channels*
- **Product technology**
- *The cars*
- **Process technology**
- *Development and maintenance of web portal*
- **Core technology**
- *Web portal*
- **Infrastructure technology**
- *Internet*

Figure 7.3 Current state business model of Wallenstam Drive

7.4 Future state

In order to create a future state business model for Wallenstam Drive, it was first necessary to know which changes on the current state that would be advantageous. Hence, the obtained findings first had to be translated into concrete actions. To do so the areas to be processed had to be generated. This was done by matching the findings presented in the empirical implications to trends, problem areas and success factors from the mobility service industry. This matching process can be seen in figure 7.4.

Empirical Implications / Important mobility service aspects	Collaborations	Differentiated BM's	Technology Centered	Lack of understanding is a barrier
Transportation patterns of members and non-members	X			
Lack of information in general				X
Preconceptions among non-members				X
Limited marketing				X
Request for more features in web portal			X	
Request for smartphone application			X	
No business customers		X		
Perceived lack of pickup/return stations	X			X

Figure 7.4 Matching of empirical implications and important mobility aspects

As mentioned previously, public transportation is used and appreciated to a high extent both by current and potential users of Wallenstam Drive. Furthermore, bicycles are quite commonly used as well, especially during summertime. It could therefore be assumed that Wallenstam Drive users would benefit from wider transportation solutions within the service which can be achieved through collaborations with other companies providing other types of transportation. Hence it is suggested that Wallenstam Drive pursue collaboration with companies offering public transportation and bike rentals. This can be materialized to a varying extent. For example, the public transportation card used in Gothenburg can also be used for the municipal bike rental service in the city. Additionally, it can already be used to unlock cars reserved in Wallenstam Drive. This function corresponds to the 'smart card' which is used by a number of mobility services and plays a vital role in their marketing. However, this function was not known by any of the respondents. A collaboration that would give Wallenstam Drive the license to use the trademarks of the public transportation and bike rental service would mean that this could be used in their marketing which would increase the awareness of this possibility and in turn increase the 'packaged feel' of the service. Over a longer time collaboration with public transportation provider and bike rental services could lead to joint deals and discounts and perhaps implementing a traveling advisor that helps users plan their trips through combinations of car and public transportation. On the subject of collaboration, it is suggested that Wallenstam Drive make better use of the already existing connection to Wallenstam. Through the connection to Wallenstam, Wallenstam Drive can deliver more pickup/return stations as this was found to be something that the respondents in the questionnaire felt was a problem. Increased number of pickup stations could also bring synergies in the form of increased exposure and awareness of the service.

Looking at the current business model, Wallenstam Drive aims to approach both business customers and private customers with the same offering. As mentioned previously there are however very few business customers, which may derive from the fact that choices regarding transportation is assumed to be more complex for companies than for private customers. Thus it is suggested that Wallenstam Drive abandon their mass market strategy and go for a more multi sided platform strategy for their two different customer segments. Unfortunately, the offering that should be used to target the business customers falls out of the scope of this study as no empirical data from business customers has been collected.

The aim of the web portal was to make it simple and based upon the need for transportation rather than specific features of the cars. However the empirical analysis implies that the customers would like to able to make more advanced searches. This could take its form by keeping the simple 'need based' searching tool but also adding the feature of filters which could be applied. There are currently some filters available in the search tool but these could be supplemented by more criteria like car model, number of seats and so on. Also, a simple calculation tool could be implemented when the user enters an estimated distance to be driven which could give an indication of the final cost. As the technology is a central part of several successful mobility services, Wallenstam Drive included, it is important to remain vigilant and maintain a modern technology for the interface. Upon this argumentation, it is also suggested that a smartphone application should be developed for Wallenstam Drive. This was also requested by a significant part of the respondents and is commonly used by other mobility services.

As stated in section 7.1.1, the area of information was found to be a large issue for Wallenstam Drive. This is also found to be a large barrier for mobility services in general and should therefore be prioritized. Improved information to the customer, not only improves the customer experience but immensely increase the possibility of attracting new customers. In the case of Wallenstam Drive it is has been shown that lack of information is a contributing factor to the relatively low number of members in regard to the potential number. It is therefore important to put increased effort and thought into marketing activities. When doing so it is important to focus on information that coincides with the current users' perceived benefits of using the service as well as disproving the 'false truths' that is a result of the prejudices non-users have towards mobility services. By adding a map on the start page of the web portal one could overcome the issue of people not knowing where the pickup/return stations are located and at the same time enlighten the people with prejudice about pickup/return stations being too few. As the population of the respondents was found to be modern and technologically interested it is suggested that the marketing make more use of social media. This could take the form in adding a simple animated movie showing how to use the service, emphasizing the ease of use. This is done by several other mobility services and also by Hertz themselves. Moreover the smartphone application allows for sending direct push notifications to the members with information about current campaigns etc. The summarized actions for developing the business model of Wallenstam Drive are shown in table 7.1.

Table 7.1 Actions for developing the business model of Wallenstam Drive

Actions for Developing the Business Model of WallenstamDrive
Introducing new collaborations, widening the offering of WallenstamDrive
Increase the number of pickup/return stations
Increase the marketing activities
Increase the information towards existing customers
Update the web portal, adding new features
Develop smartphone application
Adapt the offering depending on customer segment

Customer

As a result of the actions suggested in table 7.1, the customer element in the future state business model will change fundamentally. Regarding the customer segments the suggested

actions will mean that the multi sided platform containing two segments will have to be created. The segment towards the private customers will remain the same but a new segmented strategy towards the business customers will have to be added. The relationship towards the private customers will remain as a self-service relationship whereas the relationships towards the business customers will be of a more personal character. This is due to the nature of transportation choices within businesses are more complicated and also as a result of that the value proposition towards the business segment might differ between different customers. Also, the praxis of business to business (B2B) relationships often tends to strive towards a more personal character.

Value proposition

Widening the service to incorporate more transportation alternatives means that the benefits offered to the customer are widened as well. The basic benefit that the customer stands to gain is still transportation based on individual needs and the car is still central to the fulfillment of those needs but also supplemented through connections to other transportation alternatives which as mentioned can be added through deepened collaborations with public transport and rental bicycle providers. The value offering will still be access-based but due to adaptations in the network the value accessed can be greater. Primarily due to the widened transportation alternatives but also the increased number of pickup/return stations and secondarily through the upgraded web portal and app which will make reservations easier. When Wallenstam Drive has been around for a while the brand will be more set in the minds of the current and potential users. Efforts should be made to implant connotations that aspire to the personal values of the users, mainly keywords like modern, easy, cost-saving and environmentally friendly transport.

Infrastructure of value creation

In order to enable the changed value proposition, the infrastructure behind the value proposition has to be adjusted. The infrastructure of value creation will mainly be affected by the new actors in the network and by the introduction of a smartphone application as well as new information outlets (animated videos and push notifications). The areas in which this will materialize are in the intellectual resources where the partnerships with companies within public transportation and bike rentals will contribute. The resources will be further affected by the physical aspect by the smartphone application in it self. However the new resources are mainly obtained from the outer network. Hence the activities performed by Wallenstam Drive have to be adjusted towards enabling these relationships. This means for example building a broader network by creating new relationships and distributing the responsibilities among the members of the network. Due to the multi sided platform, it is also important that new activities are developed in which relationship with business customers are created and maintained. Regarding the private customers, the actions of putting more effort on marketing towards both existing and potential members means that these activities need to be given more resources. The smartphone application will furthermore provide Wallenstam Drive with a new channel to the customers. Additionally the smartphone application will be included into the core technology and hence the processes have to be updated in order to be able to develop and maintain the application in the same way as the web portal.

Capture value

The future value streams are difficult to foresee but they are likely to change at least due to the multisided platform strategy. The offering to business customers will likely generate different types of revenues since B2B more often revolves around packaged deals and recurring subscription fees. The cost structures are also hard to estimate but the new collaborations are likely to bring changes into the cost structure as well. Some costs may shift

within the original network whereas others may be absorbed by new partners. The future state business model is presented in figure 7.5.
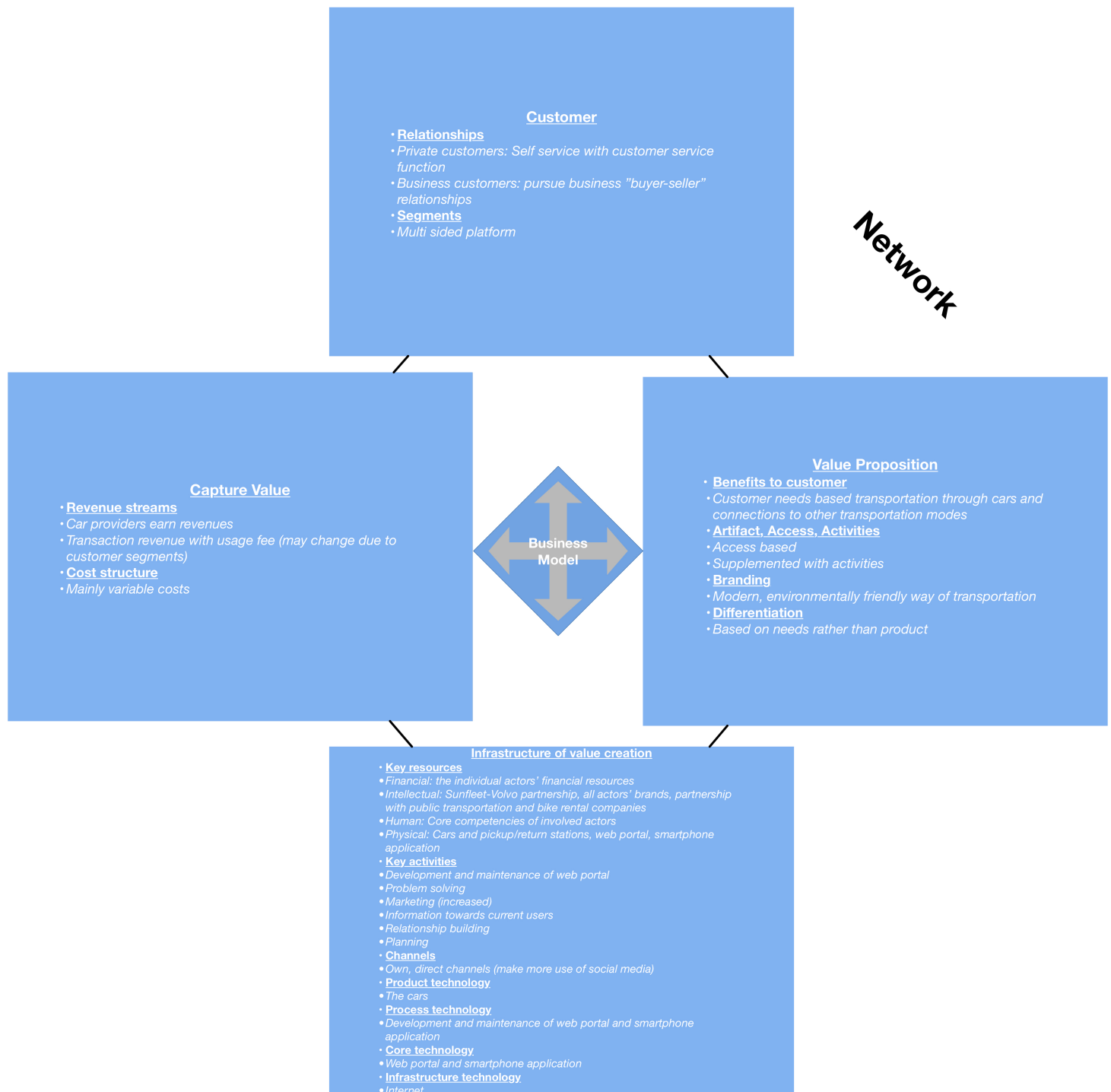
Figure 7.5 Future state of the business model of Wallenstam Drive

8. DISCUSSION

It is important to reflect upon the fact that business models have a dynamic nature. Changes in business environment and business networks all implicate that a business model needs to be adapted to remain competitive. This is something that has been emphasized throughout this study and also applies for the suggested business model that is presented in the analysis. The future state of the business model of Wallenstam Drive is a suggestion of how it could manifest itself in the future. Hence, it is not meant to be the end product on what Wallenstam Drive could be, neither does it necessarily represent the next step in its evolution. It represents an incarnation of a business model that was generated based on the knowledge accessible at the time of the study and is therefore something for Wallenstam Drive to strive for although adjustments are recommended to be made as knowledge increases. The remodeled business model presented in this study is meant to capture the dynamic and interconnectedness of the constituent elements. This means that newfound knowledge can bring change into one or more elements which will spread into other elements which make the remodeled business model a useful tool for the development of Wallenstam Drive.

While the study succeeded in fulfilling the purpose and answering the research questions it could be argued that even better results could have been achieved. In terms of information quality, it would have been better if the possibility to perform own studies on other mobility services had existed since that could have given more insight into success factors and barriers of the industry. Instead this was obtained from studies on carsharing, which was deemed applicable and the best possible solution given the circumstances.

The purpose of this study was to increase the usage of Wallenstam Drive through innovating its business model. The scope covered all aspects of a business model but there were some aspects of the business model where information could not be obtained. First and foremost, the intentions were to collect data from both private and business customers. Data from business customers could however not be collected due to administrative issues. Knowledge about business customers' strategies, needs and transport patterns are necessary for Wallenstam Drive to be able to create offerings tailored to business customers which is recommended in this study. It is therefore recommended to perform future studies on potential business customers' strategies, needs and transport patterns. However, based on the description of different mobility services and business customer characteristics in the empirical framework, some suggestions on how an offering tailored towards business customers could look can be proposed.

The corporate customers renting facilities in Wallenstam Drive are predominantly smaller service companies, precisely like the typical carsharing user in Europe. Only based on this small similarity one can argue that Wallenstam Drive has a market for business customers. To capture this opportunity they can be inspired by other mobility services in Europe which has targeted business customers using an approach called a 'fleet management service'. The fleet management service could follow the step-by-step process used by Alphabet (2015). First Wallenstam Drive would analyze the mobility need of a business customer, thereafter a mobility concept would be developed and presented together with a business case since the customers are corporate. Finally the mobility concept would be implemented and continuously evaluated during usage.

Another suggestion for future research concerns an issue that Wallenstam, Sunfleet, Hertz as well as other members of the network would benefit from. This future research would be to investigate what effects an implementation of a concept similar to Wallenstam Drive for other real estate companies would bring. The reason for this being advantageous for the actors in Wallenstam Drive is multi sided. For Wallenstam, other similar concepts would be welcome

since that gives a greater possibility of affecting the legislations regarding parking place ratio with more companies supporting the question. Sunfleet, Hertz and other involved actors, it would be a great opportunity to gain more users

9. CONCLUSION

The analysis performed in this study comprises several findings deriving from the data collected. These findings fulfill the purpose of the thesis: *To investigate how the usage of Wallenstam Drive can be increased by innovating the business model* and allows for the stipulated research questions to be answered. This chapter presents the conclusive findings for this study and how the research questions are answered and will thus provide Wallenstam Drive with guidance for how to increase the usage of their service.

This study has through the current state business model shown that Wallenstam Drive is a mobility service constructed by a network of actors, offering a need centered car based mobility service catering to a finite customer base. Thus the first research question: *How is the business model of Wallenstam Drive currently constructed and how does the service differ from existing mobility services* is answered since the construction of the service also is what differentiates it from other mobility services.

The questionnaire used to obtain knowledge about the customer base provided a lot of interesting findings. The main characteristics that were found was that the customer base is environmentally aware, relatively young of age and that the usage of public transport and bicycle is wide spread. Hence, the second research question: *What are the characteristics of the potential customer base of Wallenstam Drive* was answered. Furthermore, when comparing these characteristics to users of mobility services in Europe it was found that there were a lot of similarities, for example in areas such as interests, values, age etc. Hence the number of potential members within the finite customer base of Wallenstam Drive can be said to be large.

The future state business model illustrates how the identified adaptations needed for increasing the usage of Wallenstam Drive take form in the business model. The remodeled business model illustrates how the actions from table 7.1 are implemented and also how these actions create a ripple effect and brings further changes to other elements of the business model. Creating a multi-platform strategy towards the two customers segments calls for changes in infrastructure of value creation since new key activities related to building customer relationships are needed. Similarly, a widened mobility service offering implies changes in the network with new actors altering the key resources accessible in the business model. In a concrete way, the increase of pickup/return stations puts implications on Wallenstam and their key resources. Furthermore, the altering of the value proposition in regards of making the web portal more advanced and developing the smartphone application will alter the technologies of the business model but does also call for incorporating actors and resources from the outer network. Also, increased information sharing and marketing activities are connected to the value proposition in the way that it builds the brand of the service making it more attractive. In this way, the future state business model answers the third and final research question and fulfills the purpose of this study.

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Appendix A

WallenstamDrive

Med senaste nyhetsbrevet från Wallenstam, Hemma hos oss, fick du ett erbjudande om Wallenstam Drive. Vi är två studenter från Chalmers som via den här enkäten genomför ett examensarbete med avseende att utveckla tjänsten så att den lockar ännu fler användare. Alla svar är intressanta! Även om du valt att inte bli medlem. Vi hoppas att du vill ta dig tid och svara på enkäten och på sätt hjälpa oss och Wallenstam i vårt uppdrag att utveckla Wallenstam Drive. Enkäten beräknas ta mellan 5-10 minuter att besvara.

Medverkan i undersökningen är anonym och inga namn eller annan personlig information kommer publiceras. Enkäten nås genom länken nedan och vi hoppas att ni har möjlighet att svara helst innan 8 maj.

Vi tackar på förhand för din medverkan!

Födelseår

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- ❑ 1902
- ❑ 1901

Kön

- ❑ Man
- ❑ Kvinna
- ❑ Vill ej specificera

Hur många personer består ert hushåll av?

- ❑ 1
- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5
- ❑ Fler än 5

Vilka åldrar är det på personerna i ert hushåll?

	0-5	6-10	11-20	21-30	31-50	51-65	65-90
Person 1	❑	❑	❑	❑	❑	❑	❑
Person 2	❑	❑	❑	❑	❑	❑	❑
Person 3	❑	❑	❑	❑	❑	❑	❑
Person 4	❑	❑	❑	❑	❑	❑	❑
Person 5	❑	❑	❑	❑	❑	❑	❑

Har ni eller någon i ert hushåll körkort?

- ❑ Ja
- ❑ Nej

Sysselsättning

- ❑ Arbetande
- ❑ Studerande
- ❑ Pensionär
- ❑ Annat

Skulle ni beskriva er själv som en miljömedveten person?

- ❑ Ja
- ❑ Ja, delvis
- ❑ Nej

Väljer ni ofta att köpa produkter klassificerade som bra miljöval?

- ❑ Ja, så ofta det går
- ❑ Ja, ibland
- ❑ Nej, väldigt sällan
- ❑ Aldrig

Vänligen ange hur väl följande påstående stämmer in på er: "Jag är intresserad av ny teknik"

- ❑ Stämmer mycket väl
- ❑ Stämmer väl
- ❑ Stämmer delvis
- ❑ Stämmer mindre väl
- ❑ Stämmer inte alls

Vänligen ange hur väl följande påstående stämmer på er: "Jag köper gärna det senaste inom ny teknik"

- ❑ Stämmer helt
- ❑ Stämmer delvis
- ❑ Stämmer mindre väl
- ❑ Stämmer inte alls

Vänligen ange hur viktiga de olika faktorerna är för er vid val av transport

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar högst betydelse). De olika alternativen kan ges samma poäng

	1	2	3	4	5	6	7
Miljöpåverkan	❑	❑	❑	❑	❑	❑	❑
Pris	❑	❑	❑	❑	❑	❑	❑
Smidighet	❑	❑	❑	❑	❑	❑	❑
Tid	❑	❑	❑	❑	❑	❑	❑

Är ni eller någon i ert hushåll bilägare?

- ❑ Ja
- ❑ Nej

Hur många fordon finns i ert hushåll?

- ❑ 1
- ❑ 2
- ❑ 3
- ❑ Fler än 3

Vilken typ av fordon äger ni?

Fler än ett alternativ kan väljas

- ❑ Miljöbil
- ❑ Småbil
- ❑ Sedan
- ❑ Kombi
- ❑ SUV eller liknande

Vänligen ange hur väl följande påstående stämmer på er: "Jag har väldigt god insikt i

hur mycket mitt bilägande kostar mig"

- ❑ Stämmer
- ❑ Stämmer delvis
- ❑ Stämmer inte alls

Vänligen ange hur viktiga nedanstående orsaker är till varför ni har valt att äga egen bil?

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar högst betydelse).
De olika alternativen kan ges samma poäng

	1	2	3	4	5	6	7
Nödvändighet	❑	❑	❑	❑	❑	❑	❑
Vana	❑	❑	❑	❑	❑	❑	❑
Frihet	❑	❑	❑	❑	❑	❑	❑
Bilintresse	❑	❑	❑	❑	❑	❑	❑
Statussymbol	❑	❑	❑	❑	❑	❑	❑
Annat	❑	❑	❑	❑	❑	❑	❑

Vänligen specificera vad "Annat" innebär i föregående fråga

_____
_____
_____
_____

Tror ni att folk i allmänhet har goda kunskaper om de kostnader som bilägande medför?

- ❑ Ja
- ❑ Nej, bara till viss del
- ❑ Nej

I vilket syfte använder ni främst bil?

- ❑ Resa till/från arbete
- ❑ Vardagsbestyr
- ❑ Storhandling
- ❑ Hobbies
- ❑ Nöjesresor
- ❑ Använder inte bil

Hur långa sträckor kör ni per år?

- ❑ 0-1500 mil
- ❑ 1500-3000 mil
- ❑ 3000-5000 mil
- ❑ Över 5000 mil
- ❑ Vet ej

Vänligen ange hur viktig du tror att nedanstående orsaker är till att folk väljer att äga egen bil

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar högst betydelse).
De olika alternativen kan ges samma poäng

	1	2	3	4	5	6	7
Nödvändighet	❑	❑	❑	❑	❑	❑	❑
Frihet	❑	❑	❑	❑	❑	❑	❑
Vana	❑	❑	❑	❑	❑	❑	❑
Bilintresse	❑	❑	❑	❑	❑	❑	❑
Statussymbol	❑	❑	❑	❑	❑	❑	❑
Annat	❑	❑	❑	❑	❑	❑	❑

Vänligen specificera vad "Annat" innebär i föregående fråga

_____
_____
_____
_____

Vänligen välj det alternativ som bäst representerar er allmänna inställning till användande av kollektivtrafik.

- ❑ Använder gärna
- ❑ Fungerar som komplement
- ❑ Undviker i den mån jag kan
- ❑ Undviker helt

Hur väl tycker ni att Göteborgs kollektivtrafik fungerar

- ❑ Mycket bra
- ❑ Bra
- ❑ Tillräckligt
- ❑ Mindre bra
- ❑ Inte alls

Hur väl kan kollektivtrafiken tillfredsställa era vardagliga transportbehov?

- ❑ Helt och hållet
- ❑ Till viss del
- ❑ Bristfälligt
- ❑ Inte alls

I vilken omfattning används dessa transportmedel i ert vardagliga liv?

	Dagligen	Någon gång i veckan	Någon gång i månaden	Någon gång per år	Aldrig	Säsongsvis
Bil	❑	❑	❑	❑	❑	❑
Kollektivtrafik	❑	❑	❑	❑	❑	❑
Cykel	❑	❑	❑	❑	❑	❑
Taxi	❑	❑	❑	❑	❑	❑
Hyrbil	❑	❑	❑	❑	❑	❑
Bilpool	❑	❑	❑	❑	❑	❑

Du har angett säsongsbetonat användande. Vad innebär det i ditt fall? Beskriv vilket transportsätt, vilken säsong och hur ofta det används

_____
_____
_____
_____

Är ni medlem i en bilpool, annan än WallenstamDrive?

- ❑ Ja
- ❑ Ja, men ej aktiv
- ❑ Nej, men jag har varit medlem tidigare
- ❑ Nej

Händer det att ni använder bilpool inom ert arbete?

- ❑ Ja
- ❑ Nej
- ❑ Jobbar inte

Hur långt har ni till närmsta bilpoolsparkering

- ❑ 0-100 m
- ❑ 100 m-500 m
- ❑ 500 m-1 km
- ❑ Mer än 1 km
- ❑ Vet ej

Är ni medlem i WallenstamDrive

- ❑ Ja
- ❑ Nej

Känner ni till tjänsten WallenstamDrive?

- ❑ Ja
- ❑ Nej

Hur fick ni information angående WallenstamDrive?

- ❑ Utskick från Wallenstam
- ❑ Anslag i trapphus
- ❑ Rekommendation från annan användare
- ❑ Hört i förbifarten

WallenstamDrive är en mobilitetstjänst tillgänglig för alla boende i Wallenstamhus. Information om tjänsten finns i länken och vi skulle verkligen uppskatta om ni ville ta del av den informationen och svara på ytterligare ett par frågor. http://www.htzdrive.se

Skulle ni efter att ha tagit del av denna information kunna tänka er att använda WallenstamDrive?

- ❑ Ja, jag skulle kunna tänka mig att använda tjänsten
- ❑ Nej, jag skulle inte kunna tänka mig att använda tjänsten

Vänligen ange hur ofta ni använder WallenstamDrive

Fyll endast i den ruta som passar bäst. Om ni ännu inte hunnit använda tjänsten vänligen ignorera denna fråga

Antal gånger per vecka　　　　　　　_____

Antal gånger per månad　　　　　　 _____

Antal gånger per kvartal　　　　　　 _____

Antal gånger per år   _____

Till vilket syfte använder ni främst WallenstamDrive?

- ❑ Resa till/från arbete
- ❑ Vardagsbestyr
- ❑ Storhandling
- ❑ Hobbies
- ❑ Nöjesresor

Till vilket syfte har ni för avsikt att använda WallenstamDrive

- ❑ Resa till/från arbete
- ❑ Vardagsbestyr
- ❑ Storhandling
- ❑ Hobbies
- ❑ Nöjesresor

Hur väl tycker ni att tjänsten fungerar?

Vänligen ange på den angivna skalan där 6 representerar väldigt nöjd och 1 representerar väldigt missnöjd

- ❑ 1
- ❑ 2
- ❑ 3
- ❑ 4
- ❑ 5
- ❑ 6

Tycker ni att det är bra att man kan använda sitt västtrafik-kort för att låsa upp bokade bilar?

- ❑ Ja
- ❑ Nej
- ❑ Visste inte att västtrafik-kortet kan användas för att låsa upp bokade bilar

Anser ni att tjänstens omfattning med avseende på de inkluderade transportlösningarna är tillfredsställande?

- ❑ Ja
- ❑ Nej

På vilket sätt är ni missnöjd med omfattningen på tjänstens inkluderade transportlösningar?

_____
_____
_____
_____

Vänligen ange hur stor betydelse följande orsaker har till varför ni valt att använda tjänsten eller har ett intresse av att prova den

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar högst betydelse). De olika alternativen kan ges samma poäng

85

	0	1	2	3	4	5	6	7
Är i behov av bil emellanåt	❑	❑	❑	❑	❑	❑	❑	❑
Det är ett miljövänligt alternativ till bilägande	❑	❑	❑	❑	❑	❑	❑	❑
Slipper kostnader förknippade med bilägande	❑	❑	❑	❑	❑	❑	❑	❑
Behövs som ett komplement till kollektivtrafik	❑	❑	❑	❑	❑	❑	❑	❑
Är ibland i behov av större bil eller bil med annan utrustning	❑	❑	❑	❑	❑	❑	❑	❑
Det är det smidigaste och bekvämaste alternativet	❑	❑	❑	❑	❑	❑	❑	❑
Nyfikenhet att prova på WallenstamDrive	❑	❑	❑	❑	❑	❑	❑	❑
Tjänsten stämmer väl överens med mina personliga värderingar	❑	❑	❑	❑	❑	❑	❑	❑

Beskriv gärna med egna ord varför ni har valt att använda tjänsten WallenstamDrive

_____
_____
_____
_____

Vänligen ange hur stor betydelse följande orsaker har till varför ni valt att INTE använde WallenstamDrive

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar högst betydelse). De olika alternativen kan ges samma poäng

	0	1	2	3	4	5	6	7
Jag har inte råd att nyttja tjänsten	❑	❑	❑	❑	❑	❑	❑	❑
Dyrare än att äga egen bil	❑	❑	❑	❑	❑	❑	❑	❑
Bristande tillgänglighet till bilar (tillgång till bil vid behov)	❑	❑	❑	❑	❑	❑	❑	❑
Vill veta vem jag delar fordon med	❑	❑	❑	❑	❑	❑	❑	❑
Täcker inte mitt behov av biltyp t.ex. fyrhjulsdrift eller 7-sitsig	❑	❑	❑	❑	❑	❑	❑	❑
Vill välja vilket bilmärke jag kör	❑	❑	❑	❑	❑	❑	❑	❑
Det är för långt till upphämtnings/avlämningsplats	❑	❑	❑	❑	❑	❑	❑	❑
Passar inte mitt transportbehov	❑	❑	❑	❑	❑	❑	❑	❑
Tjänsten är inte tillräckligt omfattande i avseende på ingående transportlösningar	❑	❑	❑	❑	❑	❑	❑	❑
Upplever reservation eller nyttjande av tjänsten som krånglig	❑	❑	❑	❑	❑	❑	❑	❑

Beskriv gärna med egna ord varför ni valt att INTE använda WallenstamDrive

_____
_____
_____
_____

Vänligen ange hur mycket följande föreslagna förändringar på WallenstamDrive skulle kunna få er att ändra inställning till tjänsten

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar störst möjlighet till att förändra er inställning). De olika alternativen kan ges samma poäng

	0	1	2	3	4	5	6	7
Lägre pris	❑	❑	❑	❑	❑	❑	❑	❑
Fler bilar för att säkerställa tillgänglighet	❑	❑	❑	❑	❑	❑	❑	❑
Begränsad storlek av grupper som nyttjar ett visst antal fordon. (T.ex. er uppgång/ert hus)	❑	❑	❑	❑	❑	❑	❑	❑
Större variation av bilmärken	❑	❑	❑	❑	❑	❑	❑	❑
Större variation av bilmodeller	❑	❑	❑	❑	❑	❑	❑	❑
Fler upphämtnings/avlämningsstationer	❑	❑	❑	❑	❑	❑	❑	❑
Utvidga tjänstens omfattning med avseende på de transportlösningar som ingår	❑	❑	❑	❑	❑	❑	❑	❑
Ökad användarvänlighet	❑	❑	❑	❑	❑	❑	❑	❑
Dedikerad mobilapp för tjänsten	❑	❑	❑	❑	❑	❑	❑	❑

Vänligen poängsätt dessa aspekter av tjänsten med avseende på hur problematiska ni bedömer dem vara

Alla alternativ kan tillskrivas med ett värde mellan 1-7 (där 7 representerar störst problematik). De olika alternativen kan ges samma poäng

	0	1	2	3	4	5	6	7
Webbapplikation- användarvänlighet	❑	❑	❑	❑	❑	❑	❑	❑
Öppnande och startande av bil vid upphämtning	❑	❑	❑	❑	❑	❑	❑	❑
Reservationer/bokningar	❑	❑	❑	❑	❑	❑	❑	❑
Fakturering	❑	❑	❑	❑	❑	❑	❑	❑
Kundservice	❑	❑	❑	❑	❑	❑	❑	❑
Tillgänglighet till bilar	❑	❑	❑	❑	❑	❑	❑	❑
För långt till upphämtnings/avlämningsstation	❑	❑	❑	❑	❑	❑	❑	❑
Svårt att hitta närmaste upphämtnings/avlämningsstation	❑	❑	❑	❑	❑	❑	❑	❑
För få bilmodeller/bilmärken att välja bland	❑	❑	❑	❑	❑	❑	❑	❑
Tankning/laddning av fordon	❑	❑	❑	❑	❑	❑	❑	❑

Om ett upplevt problemområde ej gavs som alternativ i föregående fråga, vänligen ange detta

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Vilken förändring skulle ni helst se genomförd?

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